International Development Research Centre

PROJECTS

1981–1985

86-02867/

The International Development Research Centre is a public corporation created by the Parliament of Canada in 1970 to support research designed to adapt science and technology to the needs of developing countries. The Centre's activity is concentrated in five sectors: agriculture, food and nutrition sciences; health sciences; information sciences; social sciences; and communications. IDRC is financed solely by the Parliament of Canada; its policies, however, are set by an international Board of Governors. The Centre's headquarters are in Ottawa, Canada. Regional offices are located in Africa, Asia, Latin America, and the Middle East.

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International Development Research Centre

PROJECTS 1981-1985

Supplement to Projects 1970-1981

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Introduction

The International Development Research Centre is a corporation established in 1970 by the Canadian Parliament to encourage and fund technical and scientific research in the developing countries for their own advantage.

The areas of study in which IDRC gives professional and financial assistance touch, directly or indirectly, upon the daily life of the inhabitants of the developing countries: agriculture and the storage, processing, and distribution of food; forestry; fisheries; animal husbandry; energy; tropical diseases; water supplies; health services; education; demography; economics; communications; urban policy; scientific and technological policy; and information systems.

Although all its funds are provided by a grant from the Canadian government, to which it must account for its activities each year, the Centre is run by an international Board of Governors with 21 members. Under the terms of its charter, the chairman, the vice-chairman, and nine governors must be Canadian citizens; of the 10 remaining governors, six come from developing countries.

In the last 15 years, the Board of Governors approved 2376 research projects in 110 countries. The projects totaled $405 million (Canadian) — $170 500 on average.

This volume lists 1266 projects approved between April 1981 and March 1985 with a total support of $206 million. It is a supplement to the previously published *Projects 1970-1981*.

Guide to Users

All IDRC-supported projects approved between April 1981 and March 1985 are included in this book. The book is in two parts: an index and the main body of project summary listings.

The index on the following pages allows you to search by subject or by country. It is based on the IDRC library thesaurus, which follows standard international terminology for indexing and retrieving development information. To find a project, look up either the subject or country in the index to get the reference number(s). Projects in the main body of the text are listed by reference number, and are also followed by key words to assist you with finding other related projects. Use these key words for further index searches.

The first two digits of each index number tell you the year in which the file was opened. The initials following the index number stand for the name of the IDRC section responsible for the project.

AFNS	Agriculture, Food and Nutrition Sciences
CGT	Office of the Comptroller and Treasurer
COMM	Communications
CP	Cooperative Programs
FAD	Fellowships and Awards
HS	Health Sciences
IS	Information Sciences
OPE	Office of Planning and Evaluation
SO	Office of the Secretary
SPA	Special Programs
SS	Social Sciences

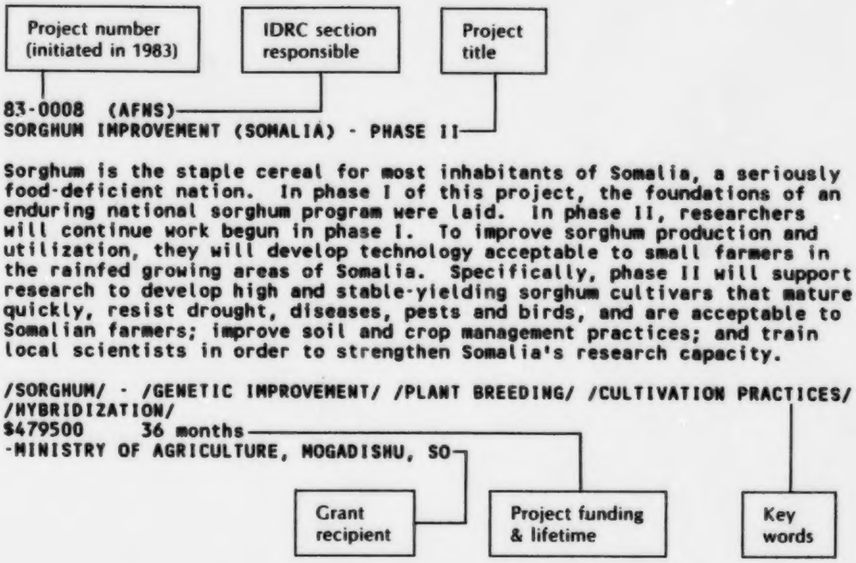
The summary text briefly identifies the project. Further information is available from IDRC. The monetary value of IDRC grants (given after the key words list) does not include financial support from other donor agencies, nor is the value of funding, salaries, or space donated by the recipient institution included in this total. The project lifetime is given in months.

Finally, you are given the institution by which the research is being carried out and its location (city and country).

Readers will notice that the presentation (for example, capital letters for titles, key words, and beneficiaries) has changed somewhat over time. These changes reflect the establishment of an interagency information system on development — IDRIS. The IDRIS data bank is assembling information on all research assistance projects funded by the Federal Republic of Germany, Sweden, the United States, and Canada.

You can consult the IDRIS data bank using a computer terminal equipped with telecommunications or by addressing inquiries to the Communications Division, IDRC, P.O. Box 8500, Ottawa, Canada K1G 3H9.

Sample


Project number (initiated in 1983)
IDRC section responsible
Project title
Grant recipient
Project funding & lifetime
Key words

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Sorghum is the staple cereal for most inhabitants of Somalia, a seriously
food-deficient nation.  In phase I of this project, the foundations of an
enduring national sorghum program were laid.  In phase II, researchers
will continue work begun in phase I.  To improve sorghum production and
utilization, they will develop technology acceptable to small farmers in
the rainfed growing areas of Somalia.  Specifically, phase II will support
research to develop high and stable-yielding sorghum cultivars that mature
quickly, resist drought, diseases, pests and birds, and are acceptable to
Somalian farmers; improve soil and crop management practices; and train
local scientists in order to strengthen Somalia's research capacity.

/SORGHUM/ - /GENETIC IMPROVEMENT/ /PLANT BREEDING/ /CULTIVATION PRACTICES/
/HYBRIDIZATION/
$479500     36 months
-MINISTRY OF AGRICULTURE, MOGADISHU, SO
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83-0070 83-0121 83-0130 83-0185 83-0193 83-0246 84-0052 84-0083
84-0116 84-0196 84-0264 84-0298
WOMEN'S ORGANIZATIONS
83-0070
WOMEN'S RIGHTS
83-0185
WOOD CONSTRUCTION
83-0126
WOOD PROCESSING
81-0182 83-0248
WOOD PRODUCTION
81-0182 82-0063
WOOD TECHNOLOGY
82-0136 82-0195
WOOD WASTES
81-0199
WORK PROGRAMME
84-0091
WORKERS PARTICIPATION
84-0221
WORKING CLASS
82-0259 84-0018
WORKING CONDITIONS
81-0210 82-0027 82-0123 82-0138 82-0163 82-0221 83-0009 83-0065
83-0136 83-0228 83-0303 83-0309 84-0177 84-0178
WRITING
83-0032 83-0038 83-0293 83-0298 84-0077 84-0078 84-0102 84-0171
84-0181 84-0191 84-0334
WRITING AND EDITING
83-0336 84-1011
YELLOW FEVER
82-0225
YOUTH
81-0166 83-0333 84-0029

List of Projects

78-0083 (IS)
POTABLE WATER SUPPLIES AND SANITATION JOURNAL

IDRC's contribution will assist Intermediate Technology Publications Ltd. (ITPL) in establishing a new journal aimed at professional and technical staff engaged in water and sanitation programs in rural and urban fringe areas. Entitled Waterlines, it will concentrate on the appropriate technology of small-scale water and sanitation systems but will also cover health problems related to water, together with organizational, institutional, and financial aspects.

/PERIODICALS/ - /WATER SUPPLY/ /SANITATION/
$262146 42 months
-INTERMEDIATE TECHNOLOGY PUBLICATIONS LTD. (ITPL), LONDON, GB

79-0086 (AFNS)
FISH GENETICS (THAILAND)

The inadequate supply of fish seed and juveniles continues to be one of the major constraints to the spread and development of aquaculture throughout Asia. Past research efforts have concentrated on increasing the availability of seed fish and of culturing, rearing and managing fish stocks; relatively little attention has been given to breeding and genetic selection to improve fish quality and to increase yields. The purpose of this project is to establish a fish genetics unit at the National Inland Fisheries Institute, in Thailand, in order to improve fish stocks for aquaculture and inland water stocking programs. Fish breeding and genetic selection experiments will be conducted, and a comparison of crossbreeds with parent stocks will be made in terms of survival, growth rate, fecundity and disease resistance.

/FISH BREEDING/ - /AQUACULTURE/
$306000 36 months
-MINISTRY OF AGRICULTURE AND COOPERATIVES, BANGKOK, TH

80-0054 (IS)
NATIONAL AGRINTER CENTRE - DOMINICAN REPUBLIC

This proposal will assist the Dominican Republic in organizing its agricultural information network, in capturing and controlling its agricultural literature, and in participating more effectively in the regional and global agricultural information systems, AGRINTER and AGRIS. Specifically, the project will strengthen the national agricultural information network (REDIAGRO) by improving the coordination mechanisms; raise the level of expertise of local institutions; contribute to AGRINTER and AGRIS and develop output services; and provide training in agricultural documentation and technical assistance.

/INFORMATION SYSTEMS/ - /AGRIS/ /INFORMATION SERVICES/
$68600 24 months
-SECRETARIA DE ESTADO DE AGRICULTURA (SEA), SANTO DOMINGO, DO

80-0097 (AFNS)
MUSSEL CULTURE (SAINT CHRISTOPHER-NEVIS)

The government of Saint Christopher-Nevis wishes to relieve the reliance on sugar and on tourism as the main sources of employment. The diversification of fisheries activities offers an opportunity to stabilize the fishing endeavour and provide employment. Specifically, the development of sea-cultivation systems could help to provide food production and employment on a year-round basis. The objective of this project is to establish a pilot mariculture system for growing mussels in the protected bays of Saint Christopher-Nevis, and subsequently to introduce other culture systems for oysters, sea moss, conch or fish when simple methods have been established by neighbouring Caribbean countries. The project will determine basic life cycle patterns of Caribbean bivalves; demonstrate best cultivation systems; organize appropriate sanitary processing systems for local sales; and train local fishermen.

/SHELLFISH/ - /AQUACULTURE/
$210200   36 months
-MINISTRY OF AGRICULTURE, BASSETERRE, KN

80-0161 (AFNS)
FOOD LEGUMES (IRRI/UPLB)

Crops, particularly legumes, which can be grown before or after a crop of rice in rainfed conditions are needed to provide a better diet and increase farm production. A breeding program aimed at developing mungbean, groundnut and soybean varieties suited to lowland rice paddies represents the thrust of this project. The project will collect and screen promising varieties of soybeans, groundnuts and mungbeans from international and national breeding programs and evaluate them for adaptability to lowland soil conditions in rice-based cropping systems; breed improved cultivars and evaluate the promising lines developed; provide the national program throughout Asia with the improved legume lines; and enable Asian farmers to complement their one crop of lowland rainfed rice with additional legume crops.

/LEGUMES/ /GENETIC IMPROVEMENT/ /SOYBEANS/ /GROUNDNUTS/ /RICE/ /MULTIPLE CROPPING/
$550300   36 months
-INTERNATIONAL RICE RESEARCH INSTITUTE (IRRI), LOS BANOS, PH

80-0165 (SS)
TRACER STUDIES (TUNISIA)

Tracer studies are important because they help to uncover the many patterns of transition from school to higher studies and to work and they help educators plan more efficiently. The general objective of this project is to develop a methodology for and to examine the feasibility of implementing a tracer study of Tunisian secondary school students who were first contacted at school in 1969. The project will adapt accumulated data to Tunisian computer facilities; develop a conceptual framework and method adequate to analyze the patterns of movement from education and training to work; and present the instrumentation and methodology at an international seminar on Tracer Studies in Developing Countries.

/SECONDARY EDUCATION/ - /SOCIAL SURVEYS/ /LABOUR MARKET/
$18000   6 months
-INSTITUT SUPERIEUR DE GESTION (ISG), LE BARDO, TN

80-0175 (IS)
SOUTHEAST ASIAN FISHERIES INFORMATION SERVICE FOR EXTENSION MATERIALS (SAFIS)

The development of fisheries plays an important role in improving food supply and in increasing the earnings of rural populations in the Southeast Asian region. One way to effect this development has been to strengthen extension services that can help the transfer of appropriate technologies. This project will enable the Southeast Asian Fisheries Development Centre (SEAFDEC), Bangkok, Thailand to set up an information clearinghouse for extension materials for small-scale fishery and fish farming operations in the Southeast Asian region. Project staff will collect, store, and disseminate fisheries extension literature, and in so doing, provide a current awareness service of regional fisheries extension literature.

/FISHERY RESEARCH/ - /EXTENSION SERVICES/ /INFORMATION SERVICES/
$210650 36 months
-SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTRE (SEAFDEC), BANGKOK, TH

80-0183 (AFNS)
CROPPING SYSTEMS (BRAWIJAYA UNIVERSITY)

The Mukibat system of cassava production is based on the grafting of Manihot glazovii, a tree cassava, onto true cassava, Manihot esculenta. This technique has been adopted by large numbers of farmers in the eastern region of Java, Indonesia. This project will permit the Brawijaya University of Indonesia to undertake research to integrate the superior cassava resulting from the Mukibat grafting procedure into effective cropping systems. The project will improve the well-being of farmers growing root crops, particularly cassava, by increasing yields of cassava plus intercropping short duration crops; and develop a cropping systems research methodology which will strengthen the Brawijaya University research potential.

/CASSAVA/ - /INTERCROPPING/ /ORGANIZATION OF RESEARCH/
$310100 36 months
-BRAWIJAYA UNIVERSITY, MALANG, ID

80-0185 (AFNS)
FORESTRY COOPERATIVE RESEARCH (AFRICA) - PHASE II

The Forestry Cooperative Research Project in Africa was originally proposed to identify the most urgent needs in forest research in Africa and to study the means of bringing about closer cooperation among forestry staff of different countries facing similar problems. The first phase of this project made satisfactory progress in several forestry research projects supported by IDRC in Africa. African research workers are now requesting more technical inputs from IDRC staff in the form of advice and assistance. It is the intention of the second phase of this project to maintain the technical support initiated in the first phase, to ensure the effectiveness of the networks of forest research projects supported by IDRC in Africa, and to undertake cooperative activities of primary interest to several countries.

/FORESTRY RESEARCH/ - /ORGANIZATION OF RESEARCH/
$432000 24 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), NAIROBI, KE

80-0188 (SS)
LOW-COST HOUSING AND URBAN SERVICES (PHILIPPINES)

With large numbers of people moving in from the countryside, Metro Manila is experiencing a rapid growth in population and a shortage of adequate housing, services and jobs. There are three possible solutions to this problem: resettle the urban poor in newly developed housing sites; build new housing on the original sites; or upgrade the families' dwellings. This project will determine the extent to which the Zonal Improvement Program (ZIP) can alleviate the housing problem; make these programs more accessible to the lowest-income groups, and determine the adequacy, efficiency and effectiveness of various urban redevelopment programs.

/HOUSING/ - /PROJECT EVALUATION/ /URBAN PLANNING/ /URBAN RENEWAL/ /PUBLIC SERVICES/
$200000 36 months
-NATIONAL HOUSING AUTHORITY (NHA), QUEZON CITY, PH

80-0189 (AFNS)
BANANAS (PHILIPPINES)

Bananas are the most important fruit crop in the Philippines and over 90 percent of the crop is produced by small farmers, mainly for home consumption. The objectives of this project are to promote an increased production and utilization of the non-export banana varieties as a new source of economic livelihood for small growers and small- to medium-scale processors; develop and adapt technologies that will facilitate the dissemination and free exchange of banana germ plasm throughout the tropics; evaluate the field performance of promising banana cultivars under different growing conditions; and improve and develop cultural and management practices for commercially acceptable banana cultivars appropriate to small-scale producers.

/BANANAS/ - /GENETIC IMPROVEMENT/ /CULTIVATION PRACTICES/ /CULTIVATION SYSTEMS/
$352600 36 months
-PHILIPPINE COUNCIL FOR AGRICULTURE AND RESOURCES RESEARCH (PCARR), LOS BANOS, PH

80-0190 (IS)
INTERNATIONAL SERIALS DATA SYSTEM - SOUTHEAST ASIA (ISDS-SEA) - PHASE II

This project will continue to support the activities of the Regional Centre for South East Asia of the International Serials Data System (ISDS-SEA) based at the National Library of Thailand, Bangkok. The ISDS-SEA is a regional network for the identification and bibliographic control of serials produced in the Southeast Asian region. Phase II will continue to analyze and develop software programs and systems documentation that are compatible with that of the International Centre in Paris (ISDS-IC); continue collecting and registering regional data on serials; provide bibliographical training to National Centres; publish ISDS-SEA Bulletin and ISDS-SEA News; and develop and publish ISDS standards and tools.

/PERIODICALS/ - /INFORMATION SYSTEMS/
$61700 36 months
-INTERNATIONAL SERIALS DATA SYSTEM (ISDS), BANGKOK, TH

80-0209 (AFNS)
BAMBOO/RATTAN (SRI LANKA)

Bamboo and rattan, the most important forest products after timber in Sri Lanka, have been used by villagers for centuries in the construction of dwellings and manufacture of handicrafts. However, the demand for bamboo and rattan products now exceeds the supply. This project will develop appropriate methods for propagating the most promising varieties of rattan and bamboo and establish small demonstration plantations in different parts of the country. Researchers will survey the distribution and availability of indigenous bamboo and rattan varieties; develop methods of mass propagation of local and exotic varieties through seed and vegetative material; and train local staff to undertake research on bamboo and rattan.

/bamboo/ /palms/ /afforestation/
$85000 36 months
-MINISTRY OF LANDS AND LAND DEVELOPMENT, COLOMBO, LK

80-0210 (AFNS)
HOUSEHOLD GRAIN PROCESSING (INDIA) - PHASE II

With the introduction of high-yielding cereals (mainly rice and wheat) in South India, there has been a corresponding decline in the production of legumes and other crops which traditionally have been the major source of protein for farm families in Andhra Pradesh. The utilization of sorghum, millet and legumes is limited by inconvenient hand dehulling methods. Because of the lack of convenient, affordable and effective dehulling and milling methods, the availability of adequate infant foods is limited. In phase I of this project, researchers were concerned with determining the nutritive value of legumes, sorghum and millet processed by in-home methods. In phase II, researchers will determine the feasibility of using a roll-over dehuller as a part of the existing village milling systems in Andhra Pradesh, India, to dehull sorghum, millet and pigeon peas and other legumes for use in infant foods.

/grain processing/ /flour/
$122300 36 months
-INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR), NEW DELHI, IN

80-0211 (AFNS)
DAIRY/BEEF FEEDING SYSTEMS (PANAMA) - PHASE II

At present, Panama imports more than 50 percent of the milk required to satisfy national consumption. Milk production is low due to ineffective pasture and inefficient management, and due to a lack of both forage conservation and nutrition supplementation schemes during the dry months. The general objective of this project is to increase dairy and beef production in Panama. In phase I, the Institute of Agricultural Research (IDIAP) developed improved feeding systems by incorporating appropriate legume species into native grasslands, by utilizing forage conservation techniques for feeding during the dry season, and by supplementing with the by-products available in the region. Phase II will evaluate and further refine the improved dairy/beef production systems designed in phase I.

/ANIMAL PRODUCTION/ - /DAIRY PRODUCTS/ /BEEF/ /FEED/
$433800 36 months
-INSTITUTO DE INVESTIGACION AGROPECUARIA DE PANAMA (IDIAP), SANTIAGO DE VERAGUAS, PA

81-0001 (AFNS)
CASSAVA (ZANZIBAR) - PHASE II

In Zanzibar, cassava is grown as a subsistence crop and occupies about one-third of a farm family's land holding. The first phase of this project achieved very promising results by introducing improved cassava varieties in Zanzibar from the International Institute of Tropical Agriculture in Nigeria, and by testing them in comparison with the low yielding local varieties. It is the purpose of the second phase of this project to continue to screen and select improved cassava varieties which are high yielding and palatable, and to distribute these to farmers. An effective cassava multiplication program will be established, and cultural practices for cassava will be developed in association with mixed crops such as maize, cowpeas and sweet potatoes.

/CASSAVA/ - /GENETIC IMPROVEMENT/ /CULTIVATION PRACTICES/
$160400 36 months
-MINISTRY OF AGRICULTURE, ZANZIBAR, TZ

81-0002 (AFNS)
FOOD LEGUMES (IITA) - PHASE III

The importance of legumes in the diets of the Sahelian and other West African people has been emphasized many times. The International Institute of Tropical Agriculture (IITA) is conducting an off-station breeding program in Upper Volta directly linked with a national cowpea improvement program. The IITA activity serves to develop improved planting materials and agronomic systems. Phase III of this project will continue to develop high and stable yielding cowpea cultivars that are resistant to drought, heat, pests, and diseases and are acceptable to farmers and their families, and to develop appropriate packages of agronomic practices for single-cropped and multiple-cropped cowpeas in the Sudanian and Sahelian areas of Upper Volta and other semi-arid African countries.

/COWPEAS/ - /GENETIC IMPROVEMENT/ /CULTIVATION PRACTICES/ /PLANT BREEDING/
$449500 24 months
-INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE (IITA), IBADAN, NG

81-0003 (HS)
TUBERCULOSIS (INDONESIA)

Tuberculosis is common in all developing countries and threatens the well-being of millions of people. Since developing countries do not have the necessary finances and facilities to carry out complex screening programs, they must focus their attention on the high-risk groups. Because loss of weight is one of the main symptoms of the disease, this project will investigate between the underweight condition and tuberculosis, with a view to developing a simple screening method to identify high-risk subjects.

/TUBERCULOSIS/ - /MALNUTRITION/
$19660 12 months
-INDONESIAN TUBERCULOSIS ASSOCIATION, JAKARTA, ID

81-0004 (SS)
REPRODUCTIVE BEHAVIOUR IN LOW INCOME FAMILIES (BRAZIL)

Research on fertility and family planning has been of low priority in Brazil until recently, when the federal government accepted family planning as a basic human right. This project will expand knowledge on reproductive and contraceptive behaviour among low-income residents of a rapidly growing Brazilian metropolis. Specifically, it will examine differential levels of fertility, study the social and economic determinants of the fertility variations, and examine knowledge of, access to, and practice of family planning in those areas.

/fertility/ /family planning/ /low income/
$66000 18 months
-CENTRO DE DESENVOLVIMENTO E PLANEJAMENTO REGIONAL (CEDEPLAR), MINAS GERAIS, BR

81-0005 (SS)
COLONIZATION AND DEMOGRAPHIC RESPONSE (BOLIVIA)

Efforts to relief population pressures in urban areas in Latin America are focused on regional development schemes. For this reason, research on the success or failure of colonization schemes is particularly important. This project will focus upon the various colonization efforts in a rapidly developing region of Bolivia, Chapare. The general objective of the project is to analyze how regional development, in the forms of economic expansion and colonization, has affected migration and family behaviour in Bolivia. Research will be undertaken to describe and compare colonization schemes in Chapare, and related migration patterns; to determine what links exist between migrants to this area and other regions; and to examine whether migration to colonization areas is basically a forced response to deteriorating rural circumstances, or whether, it represents a strategy of rural families for improving their economic conditions.

/REGIONAL DEVELOPMENT/ - /LAND SETTLEMENT/ /INTERNAL MIGRATIONS/
$66500 15 months
-CENTRO DE ESTUDIOS DE LA REALIDAD ECONOMICA Y SOCIAL (CERES), LA PAZ, BO

81-0006 (AFNS)
FOOD LEGUMES (SIERRA LEONE) - PHASE II

Legumes are a very important supplementary source of protein in the predominantly cereal diets of most Africans. Phase I of this project introduced and tested a wide range of cowpeas under Sierra Leone conditions and conducted a widespread survey of legume production in Sierra Leone. Phase II will continue research on cowpeas and, in addition, include pigeon peas and Phaseolus beans in the trials. Specifically, the objectives of phase II are to select high- and stable-yielding, disease- and pest-resistant cowpea, bean and pigeon pea varieties that are adapted to the various ecological conditions in Sierra Leone; develop agronomic practices for growing cowpeas, beans, and pigeon peas under a wide range of conditions; and carry out cooking and acceptability trials.

/COWPEAS/ - /GENETIC IMPROVEMENT/ /CULTIVATION PRACTICES/ /FOOD PREPARATION/ /BEANS/ /PIGEON PEAS/
$173000 36 months
-UNIVERSITY OF SIERRA LEONE, FREETOWN, SL

81-0007 (SS)
CORRELATES OF MORTALITY (SIERRA LEONE)

Relatively little is known on the determinants of mortality, such as length of birth intervals, the quality of nutrition, and the prevalence of diseases, in African and other developing countries. This project is designed to explain the factors responsible for the current high levels of mortality in Sierra Leone, and to suggest policy measures aimed at reducing these levels. Researchers will identify the demographic, cultural, social, economic, and environmental determinants of mortality; and evaluate the population's perception of the availability and quality, and their use, of the health care facilities. The relationship between socioeconomic factors/health care facilities and mortality will be examined to determine the factors most strongly associated with mortality levels.

/MORTALITY/
$105000 24 months
-UNIVERSITY OF SIERRA LEONE, FREETOWN, SL

81-0008 (SS)
SMALL RURAL CENTRES (CHILE)

The present economic policy in Chile encourages large-scale, modern and mechanized farms, which appears to have made demand for labour more seasonal. Many of the seasonally-employed landless labourers reside in new communities that are called "aldeas', a Spanish term for villages of small rural centres. The objectives of this project are to identify and describe the small rural centres and measure their growth; describe the past and present demographic and economic behaviour of the population; and evaluate the needs, in terms of the provision of services of the population.

/RURAL COMMUNITIES/ - /SEASONAL WORKERS/
$117000 21 months
-ACADEMIA DE HUMANISMO CRISTIANO, SANTIAGO, CL

81-0009 (AFNS)
AQUATIC WEEDS (THAILAND)

Thale Noi is a freshwater lagoon joined to the uppermost part of the northern portion of Lake Songkla in Thailand. The Thale Noi and the upper part of Lake Songkla contain large numbers of aquatic weeds which bloom all year round. The purpose of this project is to test the utilization of some of these aquatic plants as fish food. Specifically the project will make an ecological survey of Thale Noi to type the seasonal changes in the ecology of the fishes and aquatic plants; study the effect of various freshwater herbivorous fish on the aquatic ecosystem of Thale Noi; and test the feeding of aquatic weeds to herbivorous fish cultured in small enclosures in Thale Noi.

/AQUATIC PLANTS/ - /FISH CULTURE/ /FISH PRODUCTION/
$138700 36 months
-PRINCE OF SONGKLA UNIVERSITY, HAAD YAI, TH

81-0010 (SS)
THE CANADIAN CONNECTION (CANADA) - PHASE II

Young Third World educational researchers often fail to continue to do research on their return home from overseas training due to the lack of opportunity or reward for research. The purpose of this project is to provide one-year research awards for young scholars from francophone West Africa who have been trained at the University of Laval. The awards will facilitate the transition from research training to independent research work in national institutions. A complementary phase of the project will be the development of an organized program of working attachments for Third World researchers in educational research institutions in Canada.

/EDUCATIONAL RESEARCH/ - /RESEARCH FELLOWSHIPS/
$100000 24 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

81-0011 (SS)
ADVISORY COMMITTEE FOR EDUCATION RESEARCH - PHASE II

Over the First Phase of this project the Research Review and Advisory Group (RRAG) has sought to make Third World researchers and donor agencies more conscious of the kinds of research being carried out in developing countries, their possible implications for policy improvement, and their links with similar studies being conducted in the North. Phase II will enable the Review Group to develop new activities in the identification, analysis, and diffusion of findings and information relating to educational research interests in developing countries; and provide transitional core support to the Group as it explores ways to regionalize its activities in the developing world.

/EDUCATIONAL RESEARCH/ - /ORGANIZATION OF RESEARCH/
$190740 24 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

81-0012 (SS)
EXCHANGE RATE POLICY AND ECONOMIC ADJUSTMENT (URUGUAY)

This project will review the progress of the Uruguayan economy between the years 1970 and 1980 providing a detailed assessment of the impact of a range of exchange rate policies on various sectors of the economy. Specifically, researchers will examine the relationship between exchange rate policy and the generation of inflationary forces from foreign and domestic sources in the Uruguayan economy; examine the interaction of trade liberalization, monetary policy, and alternative exchange rate regimes in the small open economy; and estimate the potential effects of exchange rate changes on price expectations and their impact on actual inflation. Drawing upon this analysis, policy prescriptions for use in Uruguay and similar small open economies will be developed.

/EXCHANGE RATE/ - /ECONOMIC POLICY/ /TRADE LIBERALIZATION/
$72700 18 months
-CENTRO DE INVESTIGACIONES ECONOMICAS (CINVE), MONTEVIDEO, UY

81-0013 (SS)
ECONOMIC POLICY TOWARD MULTINATIONAL CORPORATIONS (LATIN AMERICA)

A major feature of the international economy is the prominent role played by multinational corporations in international trade and the transfer of technology. In recent years the number of MNC's based in developing countries has increased. In response to this growth, developing countries have attempted to regulate the impact of MNC's on their national economies. This project will conduct a comprehensive economic analysis of national policies toward MNC's in Argentina, Mexico, Nicaragua and Peru; and analyze the activities of multinational corporations in the financial sectors of Argentina, Brazil, Mexico, Uruguay and Venezuela.

/MULTINATIONAL ENTERPRISES/ - /ECONOMIC POLICY/
$404410 24 months
-CENTRO DE ESTUDIOS TRANSNACIONALES (CET), BUENOS AIRES, AR

81-0014 (HS)
CHAGAS' DISEASE (LATIN AMERICA)

Chagas' disease (American trypanosomiasis) is prevalent in many areas of Central and South America. The disease is diagnosed either by using direct methods which demonstrate the presence of the parasite in the blood, or by using serological tests which provide indirect evidence of the infection. There has been a great deal of interest in developing new techniques for the detection of parasitic diseases by indirect serological methods. The intention of this project is to develop a simple method for the early diagnosis of Chagas' disease that can be widely used in the field by primary health care personnel. Researchers will examine the role of a new ELISA (enzyme-linked immunosorbent assay) technique in the early diagnosis of Chagas' disease.

/TRYPANOSOMIASIS/ - /DIAGNOSIS/
$113100 24 months
-INSTITUTO DE INVESTIGACIONES DE CIENCIAS DE LA SALUD, ASUNCION, PY
-HOSPITAL DE NINOS "RICARDO GUTIERREZ", BUENOS AIRES, AR

81-0015 (AFNS)
SILVIPASTURE (INDIA)

In India, the enormous demand for forage and domestic fuelwood is the major cause of land denudation and over-grazing, which is creating serious environmental problems. Planting trees to satisfy these basic needs of the rural poor and to improve the quality of the environment is essential. The objective of this project is to increase the overall forage and tree crop productivity of degraded grazing lands and wastelands in semi-arid pastoral areas by interplanting fast growing shrubs and trees with pasture legumes and grasses that have high potential for animal feed and firewood production. Specifically, the project will identify tree-grass-legume combinations; develop suitable foliage harvesting techniques; and evaluate the seasonal nutritive value of the most promising shrub and tree species.

/forage crops/ /trees/ /intercropping/ /pastures/ /grassland/
$341900 48 months
-INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR), NEW DELHI, IN

81-0016 (AFNS)
INTERNATIONAL COUNCIL FOR RESEARCH IN AGROFORESTRY (ICRAF) - PHASE V

Phase V of this project will enable the International Council for Research in Agroforestry (ICRAF) to continue to sponsor and channel resources in agroforestry research and promote the adaptation, among developing countries, of the useful knowledge and systems derived from such research.

/AGROFORESTRY/ - /ORGANIZATION OF RESEARCH/
$300000 12 months
-INTERNATIONAL COUNCIL FOR RESEARCH IN AGROFORESTRY (ICRAF), NAIROBI, KE

81-0018 (SS)
RURAL NON-FARM EMPLOYMENT (NICARAGUA)

This project is an outgrowth of another IDRC-supported project which sought to examine the determinants of labour demand and supply in the agricultural sector of Nicaragua. There is a shortage of workers during peak harvest times in areas where coffee and cotton are grown and widespread unemployment at other times. During the season when demand for agricultural workers is low, the rural people turn to other types of employment. This project seeks to establish exactly what kind of non-agricultural employment is available and will survey commercial firms which offer employment, draw up a profile of the workers, and measure the level of productivity and the effect of the non-agricultural employment on rural development strategies.

/EMPLOYMENT/ - /RURAL INDUSTRY/
$152500 18 months
-INSTITUTO CENTROAMERICANO DE ADMINISTRACION DE EMPRESAS (INCAE), MANAGUA, NI

81-0019 (SS)
PSSC CONSORTIA PROGRAM (PHILIPPINES)

The Philippine Social Science Council (PSSC) is a private non-profit association of eleven national professional social science organizations. Its objectives, to support social science research and publications, and to train social science researchers and teachers are achieved through a consortia of research centres spread out in provincial areas of the Philippines. This project aims to provide funding for local and regional collaborative research between centres within the PSSC and non-PSSC network; to enhance research expertise; and to disseminate research findings through reports and workshops.

/social research/ - /ORGANIZATION OF RESEARCH/
$138000 36 months
-PHILIPPINE SOCIAL SCIENCE COUNCIL (PSSC), MANILA, PH

81-0020 (IS)
FABA BEANS INFORMATION SERVICE (FABIS)

This project will assist the International Centre for Agricultural Research in the Dry Areas (ICARDA) to commence the activities of a specialized information analysis centre on faba (broad) beans. Activities of the centre will be to collect documents on faba beans from worldwide sources; set up an appropriate document storage and retrieval system; issue special bibliographies; produce the current newsletter, FABIS; and provide question-and-answer service.

/FABA BEANS/ - /INFORMATION SERVICES/
$486150 36 months
-INTERNATIONAL CENTER FOR AGRICULTURAL RESEARCH IN THE DRY AREAS (ICARDA), ALEPPO, SY

81-0021 (IS)
CURRENT AGRICULTURAL RESEARCH INFORMATION SYSTEM (CARIS) SOUTHEAST ASIA

The Agricultural Information Bank for Asia (AIBA) was created as the focal point of a regional network for exchanging agricultural information and to link the region with AGRIS (International Information System for Agricultural Sciences and Technology). This project will permit AIBA to act as the Southeast Asian focal point for FAO's Current Agricultural Research Information System (CARIS). CARIS is an international cooperative information network designed to provide developing countries with a mechanism for collecting, organizing and exchanging information on their respective agricultural research capacities and activities.

/INFORMATION NETWORK/ - /AGRICULTURAL RESEARCH/ /INFORMATION SERVICES/
$132000 36 months
-SOUTHEAST ASIAN REGIONAL CENTRE FOR GRADUATE STUDY AND RESEARCH IN AGRICULTURE (SEARCA), LAGUNA, PH

81-0022 (IS)
AGRIS EGYPT - PHASE II

The importance of the agricultural sector to the Egyptian economy is very basic. Income from this sector accounts for over 31 percent of the Gross National Product and farming is still the main occupation of the majority of the work force. Phase I of this project enabled Egypt to control better its national agricultural literature by inputting this literature into AGRIS (International Information System for Agricultural Sciences and Technology). Phase II will build on the experience gained in phase I and extend its activities in supplying Egyptian users with current agricultural information. Specifically it will enable the continued production of an Egyptian national agricultural bibliography from the AGRIS data base and continue to provide other agricultural information services.

/AGRIS/ - /INFORMATION SERVICES/
$159500 24 months
-MINISTRY OF AGRICULTURE, CAIRO, EG

81-0023 (HS)
Time-Temperature Indicators (Global) - Phase II

The biggest obstacle to successful immunization programs is keeping vaccines safe and effective through refrigeration from manufacture to use. Unfortunately, transportation problems, defective refrigeration and mishandling of vaccines are common in the field. Phase I of this project supported the development of a simple color-change indicator which warns the health worker that a vial of vaccine is no longer usable. Research focused on the evaluation of a time-temperature (t-t) colour indicator for measles vaccine. The purpose of phase II of this project is to enable the completion of the necessary steps to mass-produce the indicators, test them in field conditions in different cultural and climatic settings, and arrange for their introduction in large public immunization programs in developing countries.

/vaccines/ /testing/ /immunization/
$163100 12 months
-Program for Introduction and Adaptation of Contraceptive Technology (PIACT), Seattle, US
-Institut Armand-Frappier. Centre de recherche en virologie, Laval-des-Rapides, Québec, CA

81-0024 (AFNS)
INLAND FISHERIES (MALAYSIA) - PHASE II

Malaysia's Sarawak Baram District has an important inland fisheries resource from numerous lakes and a vast system of rivers and streams. Development in this area is increasing and the effects of these developments on the existing fishery are the main areas of concern to the government. Phase I of this project obtained information on the extent of fish resource exploitation by the local people, the major species captured, their distribution, biology and sizes harvested. Research in phase II will concentrate specifically on what fish are being caught by the rural fishermen in order to detect changes in stocks and fishing effort to permit rational management of the fisheries. Researchers will develop a sampling frame for the whole Baram drainage basin together with a sampling schedule; and initiate a sampling program of fishermen's catches.

/INLAND FISHING/ /sample/ /FISHERY MANAGEMENT/ /FISHERY CONSERVATION/
$175000 36 months
-STATE MINISTRY OF AGRICULTURE AND COMMUNITY DEVELOPMENT, SARAWAK, MY

81-0025 (AFNS)
CEREALS (RWANDA) - PHASE II

Rwanda is one of the most densely populated countries in Africa. There is a great need to improve the yields of the main food crops and, where possible, to introduce new food crops. Phase II of this project will continue breeding activities and agronomic research begun in Phase I on sorghum, triticale, and sunflower, and will initiate research on maize and wheat. The objectives of phase II are to breed, select and test sorghum, maize, wheat, triticale and sunflower for high and stable yield, disease and pest resistance and wide adaptability, and to develop agronomic packages, with and without fertilizer, and to test these packages on a pilot scale on small farms.

/CEREALS/ - /PLANT BREEDING/ /GENETIC IMPROVEMENT/
$290000 36 months
-MINISTRY OF AGRICULTURE, KIGALI, RW

81-0026 (AFNS)
MARICULTURE (PANAMA) - PHASE I

Polyculture of fin-fish in combination with shrimp has been successfully demonstrated in the Philippines. This project will help grow indigenous fishes in Panama together with shrimp. Specifically, the project will determine the most suitable techniques for culture of native species such as Mugil and Dormitator in brackish-water ponds; and identify the most efficient techniques for the combined culture of such species with shrimp already being reared in pond systems.

/AQUACULTURE/ - /SHRIMPS/
$163200 36 months
-DIRECCION NACIONAL DE ACUICULTURA, SANTIAGO DE VERAGUAS, PA

81-0028 (AFNS)
ALLEY CROPPING (NIGERIA) - PHASE I

Alley cropping is an intercropping system involving selected species of shrubs or trees planted in rows in association with food crops (alleys). The general objective of this project is to determine the technical and economic feasibility and merits of alley cropping in Nigeria. Specifically, the project will screen native browse species for use as a source of dry season fodder; evaluate the impact of alley cropping using leguminous trees on crop and pasture yields and soil fertility; compare the relative performance of L. leucocephala and G. sepicum as sources of feed; and study the effect of different management systems on the leaf yield of G. sepicum.

/INTERCROPPING/ - /FORAGE CROPS/ /LEGUMES/ /FODDER/ /CULTIVATION PRACTICES/
$188300 36 months
-INTERNATIONAL LIVESTOCK CENTRE FOR AFRICA (ILCA), ADDIS ABABA, ET

81-0029 (SS)
TECHNOLOGY USE IN ANDEAN INDIGENOUS COMMUNITIES (ECUADOR)

Peasant farming communities in Latin America are often regarded as marginal to agricultural modernization, as they are often culturally separate, poor and producing few tradeable goods, and living in ecologically harsh zones frequently remote from cities and government influence. This project examines a peasant community in Ecuador in order to explore how peasant farmers organize their work and use technology. Researchers will establish the productive capacity of the community; discuss the work of the peasant, his use of tools and his knowledge and attitudes to technology; describe the key technological constraints to community farming; and write a report describing the technological structure of the community.

/PEASANTS/ - /AGRICULTURAL ENGINEERING/
$70000 12 months
-CENTRO DE ARTE Y ACCION POPULAR (CAAP), QUITO, EC

81-0030 (SS)
CORRELATES OF CHILD MORTALITY AND MORTALITY-FERTILITY RELATIONSHIPS (EGYPT)

Over the past two decades, Egypt has been experiencing rapidly falling mortality rates, and less dramatic, but nonetheless significant declines in fertility levels. Very little is known about the correlates of child mortality, and even less about the relationship between mortality and fertility. This project proposes to conduct an analytical study of the correlates of mortality, and provide an assessment of the relationship between mortality and fertility. Specifically the project will describe child mortality differentials both over time and by geographic regions; identify the social, economic and public health correlates of child mortality; and suggest policy implications.

/MORTALITY/ - /CHILDREN/ /FERTILITY/
$28000 12 months
-CAIRO UNIVERSITY, CAIRO, EG

81-0031 (SS)
RURAL SOCIAL SCIENCES: PLANNING AND RESEARCH (AFRICA)

Modernization of rural areas in developing countries has created a demand for people trained in rural social sciences. Although countries in sub-Saharan Africa have invested heavily in education and training, there remain serious shortages of skilled people and of facilities for training and research. This project will examine the capacity for training in the rural social sciences in sub-Saharan Africa in terms of factors affecting the supply and demand for various skills; existing facilities both in Africa and overseas; and, previous and prospective investment by African governments and donors in training facilities and programs. Priority areas for further investment in training in the rural social sciences will be identified.

/TRAINING/ - /social research/ /RURAL AREAS/ /RURAL DEVELOPMENT/
$82000 8 months
-INTERNATIONAL SERVICE FOR NATIONAL AGRICULTURAL RESEARCH (ISNAR), THE HAGUE, NL

81-0032 (SS)
CLASSROOM ENVIRONMENT AND STUDENT ACHIEVEMENT (THAILAND)

The question of what kinds of teaching methods and types of classroom environments have an impact on the achievement of students will be addressed in this project. Funds will be provided to the Department of Teacher Education in Thailand, to enable Thailand to participate in a systematic and representative way in an 18-nation study of classroom environment and teacher training. Researchers will determine, within each major area of Thailand, the relationships between aspects of teaching practice and classroom environment, and educational outcomes, such as student achievement and attitudes. Teacher education programmes will be designed to instruct teachers in improved teaching methods.

/TEACHING METHODS/ - /SCHOOL ENVIRONMENT/ /TEACHER TRAINING/ /STUDENT BEHAVIOUR/
$59500 48 months
-MINISTRY OF EDUCATION, BANGKOK, TH

81-0033 (AFNS)
BEEKEEPING (MALAYSIA)

Modern beekeeping is an important industry in the developed countries. In the developing countries of the tropics its full potential is yet to be realized. Malaysia, with its abundant melliferous plants and indigenous honeybees has a promising future in this industry. This project will conduct research in bee botany, management and breeding in order to promote the beekeeping industry in Malaysia. Researchers will promote modern beekeeping methods of hiving bees in boxes with movable frames; provide a nucleus of research for supporting a healthy growth of the beekeeping industry; and provide an effective extension service to promote beekeeping as a subsistence industry to small holders who grow coconut palms and/or rubber trees.

/APICULTURE/ - /HONEY/ /AGRICULTURAL EXTENSION/
$189800 48 months
-UNIVERSITY PERTANIAN, SELANGOR, MY

81-0034 (SS)
MIGRATION, REMITTANCES AND RURAL DEVELOPMENT (KENYA)

Remittances sent by migrants to their places of origin, and subsequent expenditure of these within the local economy are important consequences of migration. The general objective of this project is to ascertain the nature, level and use of urban to rural remittances in Kenya and to assess their impact on rural development. Information will be collected on the socioeconomic and demographic characteristics of migrants and their households of origin; the level and nature of the two-way flow of monetary and non-monetary remittances between areas of origin and destination; and the utilization of remittances. Policies will be formulated which could influence the level of remittances from migrants to their areas of origin, and which could channel a greater proportion of such remittances into economic development programs.

/RURAL MIGRATIONS/ - /MONETARY TRANSFERS/ /RURAL DEVELOPMENT/
$38700 18 months
-UNIVERSITY OF NAIROBI, NAIROBI, KE

81-0035 (SS)
EDUCATION TO WORK TRANSITION (ARGENTINA)

Within the established educational system, vocational and technical programs are poorly funded and have small enrollments. In contrast, the parallel educational system, that is, that network of institutions and centers offering organized education and training outside the regular schools and universities, has evidenced an unprecedented growth in the last decade in many developing countries. This project, by focusing on this parallel system, seeks to explore the transition between education and work among youths in Argentina. The project will present a detailed inventory of the institutions offering vocational and technical education in Buenos Aires; identify the linkages of these institutions to the labour market; and examine how the existence of the parallel education system affects youth's transition from school to training to work.

/VOCATIONAL EDUCATION/ - /VOCATIONAL SCHOOLS/ /VOCATIONAL TRAINING/
/OCCUPATIONAL MOBILITY/
$51500 12 months
-CENTRO DE ESTUDIOS DE ESTADO Y SOCIEDAD (CEDES), BUENOS AIRES, AR

81-0036 (SS)
SOCIO-CULTURAL DIMENSIONS OF FERTILITY AND MORTALITY (BOLIVIA)

It is widely agreed that cultural factors have an important influence upon fertility and mortality. In a relatively traditional country such as Bolivia, an understanding of cultural variables is crucial to the planning and implementation of development policies. This project has been proposed to study the complex interrelationships between demographic and cultural factors in Bolivia. The project will study the cultural norms and values existing within Bolivian families; determine fertility patterns of these families; investigate the interrelationships between fertility levels and cultural factors; study the levels of infant mortality in selected families; and investigate the interrelationships between infant mortality and cultural factors.

/FERTILITY/ - /CULTURAL FACTORS/ /INFANT MORTALITY/
$55000 12 months
-MINISTERIO DE LA PLANIFICACION Y DE LA COORDINACION, LA PAZ, BO

81-0037 (SS)
PEASANT ORGANIZATION AND RURAL DEVELOPMENT (ECUADOR)

In the growth of peasant organizations is seen the recognition of the need to involve rural communities in the development process. Peasant organizations in Ecuador are varied, with some having evolved out of traditional communal organization while others have been created through government initiatives. The objectives of this project are to study and compare existing forms of peasant organization in Ecuador and to determine which forms seem most viable and most likely to participate successfully in future rural development programs. Specifically researchers will study the evolution of different forms of rural organization; compare the role of organized rural pressure groups; describe government activity in encouraging peasant participation; and identify the traditional social relationships governing community organization.

/PEASANTS/ - /ASSOCIATIONS/ /SOCIAL PARTICIPATION/ /RURAL DEVELOPMENT/
/COMMUNITY DEVELOPMENT/
$57000 15 months
-CENTRO DE PLANIFICACION Y ESTUDIOS SOCIALES (CEPLAES), QUITO, EC

81-0038 (SS)
POPULAR EDUCATION (LATIN AMERICA)

"Popular Education" has been the term applied to much of the most innovative work in Latin America that has sought to involve the poorer sectors of society in their own education and development. The thrust of popular education has been to offer information plus change. The purpose of this project is to analyze the immense but scattered approaches to, and experiences in, the field of popular education in Latin America. Specifically the project will systematize and classify the experiences in popular education and in action research as they relate to education; identify the underlying theories of social change inherent in such participatory action; extract the pedagogical methods used in popular education; and review existing research evaluations of popular education.

/NON-FORMAL EDUCATION/ - /SOCIAL CHANGE/
$24000 6 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

81-0039 (SS)
URBAN PRESCHOOL ENVIRONMENT STUDIES - PHASE II

Phase I of this project sought to discover the extent to which children from the poorer segments of urban Guatemalan society display cognitive deficits during the early years of primary schooling. Phase II will measure the cognitive development of, and assess the stability of these measurements in a sample of poor, urban preschool children in Guatemala City; compare the results of measurements with a sample of children from middle- and upper-income families; identify features of the child's environment that are related to their cognitive development and school performance; study the relationship between cognitive development and nutritional status; and analyze the extent to which the existing educational programs meet the needs of children of different environmental circumstances.

/PRESCHOOL EDUCATION/ - /LIVING CONDITIONS/
$71200 12 months
-UNIVERSIDAD DEL VALLE DE GUATEMALA, GUATEMALA CITY, GT

81-0041 (HS)
CHANCROID (KENYA)

Sexually-transmitted diseases (STD) continue to spread unabated throughout the world. Chancroid, a major STD in many parts of Africa, is characterized by genital ulcers and abscesses in the groin and may lead to destructive lesions in both males and females. Whereas diagnostic tools have been developed for gonorrhea and syphilis, little has been done to simplify the diagnosis of chancroid. The objectives of this project are to define the clinical features of genital ulcer disease in patients who attend the special treatment clinic in Nairobi, Kenya; develop a culture medium for the diagnosis of chancroid; and find the most appropriate treatment for chancroid.

/venereal diseases/ /diagnosis/ /disease control/
$37510   12 months
-UNIVERSITY OF NAIROBI, NAIROBI, KE

81-0042 (SS)
REGIONAL ENERGY SYSTEMS (ARGENTINA)

Argentina currently bases its energy policy on analyzes of its energy situation which are largely "global" in nature and which comprise very large aggregates within the national economy. These aggregate analyzes exclude the potential contribution of so-called "non-conventional" sources of energy. This project proposes to improve energy planning methodologies in Argentina by examining the structure and functioning of a specific regional energy system. Specifically the project will examine the overall energy system of Entre Rios Province; analyze the characteristics of energy supply and use; analyze the relationship between energy use and a number of major explanatory variables associated with population characteristics and economic activity; and determine the extent to which non-conventional sources of energy could contribute to the supply of energy to the region.

/ENERGY CONSUMPTION/ - /ENERGY ECONOMICS/ /POWER DEMAND/ /ENERGY SOURCES/
$62000   12 months
-INSTITUTO DE ECONOMIA ENERGETICA, RIO NEGRO, AR

81-0043 (SS)
URBAN ENERGY SURVEY (FIJI)

Fiji, like many other small developing countries, depends almost totally (94 percent) on imported oil to satisfy its commercial energy requirements. The Government of Fiji recognizes the need to develop a cohesive national energy policy, especially in light of rising oil prices. However, there is a lack of information on which to base energy policy. Data is required on energy demand in Fiji and energy consumption. The objective of this project is to identify and quantify the pattern of energy supply and consumption in Suva, the capital city of Fiji, and to determine consumers' perceptions of their future energy requirements. A secondary objective is to contribute to the creation of local capability in energy policy research.

/ENERGY CONSUMPTION/ - /ENERGY SOURCES/ /POWER DEMAND/
$73750   24 months
-MINISTRY OF ENERGY, SUVA, FJ

81-0044 (SS)
AYMARAN RADIO PROGRAMS (BOLIVIA)

The Aymaras are one of the two principal ethnic groups in Bolivia. The radio stations that broadcast in Aymara have become a significant "alternative" communication source for these people. The objective of this project is to describe the characteristics of Aymaran radio programs and to assess their impact on rural communities. Researchers will describe the structure of broadcast production, centers of transmission, ownership, programming, style, content, and financial structure of the stations offering Aymaran radio programs and analyze the Aymaran radio programs in the social and cultural development process.

/RADIO/ - /MASS COMMUNICATION/ /SOCIAL CHANGE/
$20100   6 months
-UNIVERSIDAD CATOLICA BOLIVIANA, LA PAZ, BO

81-0045 (HS)
EPIDEMIOLOGY TRAINING (CHINA)

In September 1980 a delegation from the International Development Research Centre (IDRC) visited the People's Republic of China and met with scientists in various research institutes. In discussions with Chinese scientists, the need for training of key personnel in their institutions was cited, especially in the field of epidemiology. Upon the delegation's return to Canada, meetings were held with different medical faculties in universities across the country to discuss the participation of Chinese scientists in their courses. The objective of this project is to identify appropriate scientists from the People's Republic of China who will undergo a training course in epidemiology in Canada and who, upon their return, will be able to form a research training capacity in their institutes.

/EPIDEMIOLOGY/ - /TRAINING PROGRAMMES/ /SCIENTIFIC COOPERATION/
$545335   30 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

81-0046 (SPA)
THE FUTURES SECRETARIAT

The Futures Secretariat is a nonprofit organization created to increase the awareness of Canadians about international development. This project will help the Futures Secretariat become established and will assist in its initial operations. The Secretariat will carry out a broad range of activities, such as organizing events and services to involve individuals and groups in development issues; provide information and educational services to stimulate interest in North-South issues; encourage greater participation of the media in publicizing North-South issues; organize conferences and workshops; and maintain contact with government and non-governmental organizations engaged in development.

/NON-PROFIT ORGANIZATIONS/ - /INTERNATIONAL COOPERATION/
$57710   12 months
-THE FUTURES SECRETARIAT, TORONTO, ONTARIO, CA

81-0047 (SS)
EMPLOYMENT POLICY AND TECHNICAL CHANGE (COLOMBIA)

The government of Colombia has been committed to alleviating unemployment; and creating employment opportunities since 1969. The purpose of this project is to review and analyze the effects of government policy on employment in Colombia, with particular reference to the impact of technological change on employment patterns. Researchers will review the course of employment, by sector, between 1969-81; analyze the major government policies toward employment and technology; study the successes and failures of attempts to implement urban and rural employment creation schemes; identify industries in which the choice of technology has increased or diminished employment; analyze changes in employment, government policy and technology since 1974, in order to explain current unemployment; and recommend policy alternatives.

/EMPLOYMENT POLICY/ - /TECHNOLOGICAL CHANGE/ /CHOICE OF TECHNOLOGY/
$43500 9 months
-OFICINA DE INVESTIGACIONES SOCIO-ECONOMICAS Y LEGALES (OFISEL), BOGOTA, CO

81-0048 (SS)
EDUCATIONAL RESEARCH AWARDS (KENYA)

Social science research into education is limited in Kenya. Due to inadequate infrastructure and funding, Kenya's most talented scholars give little attention to long-term, rigorous work on interests of their own. This project will make available to individual researchers small research grants which will encourage both junior and senior scholars to engage in new kinds of research on themes of their own choosing. The primary objective of this project is to encourage the conduct of research that can contribute to an understanding of the interaction between education and social development in Kenya. Results of research undertaken during this project will add not only to the knowledge of educational issues in Kenya but also to the literature available in Kenya's teacher training colleges and university.

/GRANTS/ - /EDUCATIONAL RESEARCH/ /social research/
$97700 39 months
-KENYATTA UNIVERSITY COLLEGE, NAIROBI, KE

81-0049 (SS)
AGRARIAN REFORM AND TECHNOLOGICAL CHANGE (PERU)

In a previous IDRC-supported project research was undertaken by the Institute for Peruvian Studies, on Peru's agrarian reform (1968-79). Information was collected on changes in land tenure and an evaluation of the impact of government policies was presented. Researchers wish to re-examine the data collected in this project in order to evaluate the impact of the reform on peasant and small farmer technology. The project will examine how the agrarian reform altered the productive structure in rural areas; identify technological progress; examine changes in technology usage; and establish the conditions under which peasant communities have adapted technology to the new rural structure.

/AGRARIAN REFORMS/ - /FARMING SYSTEMS/ /TECHNOLOGICAL CHANGE/
$53000 12 months
-INSTITUTO DE ESTUDIOS PERUANOS (IEP), LIMA, PE

81-0050 (SS)
INTERNAL MIGRATIONS (HAITI)

Haiti is the poorest nation in the Americas and has recently experienced a great movement of people from rural areas to the capital city Port-au-Prince and even to other countries. This project will study the socioeconomic impact of internal migrations in Haiti. Interviews with migrants will be conducted in order to understand the causes and consequences of rapid migration towards the capital city and to improve the process of integration for the migrants. The project will also provide for the training of several Haitian social science researchers.

/INTERNAL MIGRATIONS/ - /MIGRANTS/
$34000 12 months
-CENTRE DE RECHERCHES EN SCIENCES HUMAINES ET SOCIALES (CRESHS), PORT-AU-PRINCE, HT

81-0051 (SS)
TECHNOLOGY AND THE DEVELOPMENT OF ENERGY INDUSTRIES (INDIA)

Unlike many other developing countries of the region, India is not bereft of domestic energy resources; a major component of their problem is the technological one of adapting this supply to the pattern of domestic demand for energy. India is relatively well-endowed in coal and hydroelectricity and poorly endowed in gas and oil. The purpose of this project is to investigate the three energy industries - coal, oil and gas, and electricity - and to identify the major technological factors upon which their operation and expansion depend. The focus will not be on the details of technology as such but its relationship with the economics of the industries.

/ENERGY ECONOMICS/ - /TECHNOLOGICAL CHANGE/ /ENERGY SOURCES/ /PRODUCTION FACTORS/ /ENERGY POLICY/
$74000 24 months
-NATIONAL COUNCIL OF APPLIED ECONOMIC RESEARCH (NCAER), NEW DELHI, IN

81-0052 (SS)
TRADITIONAL KNOWLEDGE AND FARM TECHNOLOGY (PERU)

Traditional knowledge provides hints to modern science about economic botany, animal husbandry, and potential improvements in farming methods. As oral knowledge, communal information about farming and vegetation is difficult to discover because it is rarely recorded. The objective of this project is to allow a Peruvian researcher to successfully complete his work on traditional knowledge in four Peruvian coastal communities. The researcher will record communal information about agricultural techniques, vegetation, ecology and irrigation; and describe traditional methods of agricultural food production, with a view to recording such farming information for possible later use.

/COOPERATIVE FARMING/ - /TRADITIONAL CULTURE/ /CULTIVATION PRACTICES/
$4800 3 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

81-0053 (SS)
TECHNICAL EDUCATION AND TECHNICAL WORK (ARGENTINA)

This project will explore major issues in the relationship between technical education and technical work in Argentina. Researchers expect to contribute to an increasingly important debate about priorities in technical and vocational preparation of young people. Specifically, the project will address the following interrelated issues: the role of formal secondary technical education in occupational mobility, particularly in small- and medium-scale industries; the extent to which such formal education can be replaced by nonformal education or on-the-job training; and the balance between cognitive and noncognitive content in the training cycle and in the characterization of tasks in small- and medium-sized firms.

/TECHNICAL EDUCATION/ - /CONSTRUCTION INDUSTRY/ /IN-PLANT TRAINING/ /PROMOTION/
$54000 12 months
-CENTRO DE INVESTIGACIONES EDUCATIVAS (CIE), BUENOS AIRES, AR

81-0054 (SS)
EFFECTIVENESS OF PRIMARY EDUCATION (TANZANIA)

The decentralization of planning and decision-making and the universalization of primary schooling are two of the most important educational trends in the developing world. Tanzania is an interesting example of the interaction of universal primary education with a strong national ideology based on self-reliance. This project will examine the present conditions of primary education in Tanzania, reviewing previous research on factors affecting primary school education; and investigate how the universalization of primary schooling has affected national ideology, regional decision-making, and community involvement in schools.

/PRIMARY EDUCATION/ - /EVALUATION/ /EDUCATIONAL RESEARCH/
$56000 16 months
-UNIVERSITY OF DAR ES SALAAM, DAR ES SALAAM, TZ

81-0055 (SS)
SMALL SCALE INDUSTRIES (PAKISTAN)

Improvements in agricultural technology in Pakistan in the 1960's led to increased demand for agricultural machinery in the 1970's. This demand for agricultural machinery has been met by the unplanned growth of small-scale industries. This project will compare the economic performance of small-scale and large-scale industries in the agricultural machinery sector, their linkages with the rest of the economy, and role in the economic development of Pakistan. The project will describe the growth of the small-scale enterprises in the farm machinery sector; analyze choice of technology, production technique and efficiency of small-scale and large-scale enterprises; describe the workings of the labour market, and the emergence of growth centres for small-scale industries.

/SMALL-SCALE INDUSTRY/ - /AGRICULTURAL MACHINERY/ /LABOUR PRODUCTIVITY/
$72700 24 months
-QUAID-I-AZAM UNIVERSITY, ISLAMABAD, PK

81-0056 (IS)
NATIONAL AGRICULTURAL BIBLIOGRAPHIES

Since 1975, AGRIS (International Information System for Agricultural Sciences and Technology) has been assisting countries to organize and share current agricultural information, particularly in identifying, selecting and indexing their own literature. Many countries participating in AGRIS would like to get agricultural information back to national users in a form which is useful locally, but a lack of facilities inhibits them. This project would enable up to 18 countries participating in AGRIS but lacking facilities to produce their own national inventory of agricultural literature, to obtain assistance through FAO to publish such information in the form of national agricultural bibliographies. This project will increase awareness of national agricultural literature; generate greater participation in AGRIS; promote the exchange of agricultural information locally; and provide better services to users in each country.

/AGRIS/ - /BIBLIOGRAPHY/
$24000   24 months
-FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO), ROME, IT

81-0057 (AFNS)
MILLET AND SORGHUM (ZIMBABWE)

Agricultural research in Zimbabwe has been almost entirely directed to the problems of the large scale commercial farmers. The new government of Zimbabwe would like to improve farming productivity in the small holding areas by establishing a breeding program to produce improved varieties of pearl millet and sorghum, subsistance crops for small farmers. It is therefore the general objective of this project to develop and provide to small holders improved varieties of pearl millet and sorghum. Researchers will develop varieties capable of giving stable yields under conditions of variable rainfall and low soil fertility; and will select varieties for high yield, rapid maturity, drought resistance, grain quality and acceptability, disease and pest resistance, and resistance to bird damage.

/MILLET/ - /SORGHUM/ /PLANT BREEDING/
$337700   36 months
-MINISTRY OF AGRICULTURE, HARARE, ZW

81-0058 (AFNS)
FOOD PROCESSING CENTRES (THAILAND) - PHASE II

The purpose of this project is to determine the feasibility of processing and marketing nutritionally adequate infant food from a community or village food processing centre (FPC), such as the one already established at Nong-Hai, Thailand. Phase I developed an acceptable formula for infant food using a mechanical processing system and ingredients produced in the Northeast area. In this proposed second phase of the research, further studies on the production, marketing, distribution and source of supplies for the Nong-Hai facility will be done. Specifically, phase II will determine the economic feasibility of marketing infant food produced at the Nong-Hai facility; and determine the impact on the nutritional status of infants.

/FOOD PROCESSING/ - /INFANTS/ /NUTRITION/ /MARKETING/
$120000   30 months
-MAHIDOL UNIVERSITY, BANGKOK, TH

81-0059 (AFNS)
CROP DRYING (GUATEMALA) - PHASE II

The principal cash crop in the highlands of Guatemala is coffee, much of it grown by small farmers. The overall objective of phase I of this project was to develop and test an economical crop-drying technology for the small- and medium-sized "beneficios" in the highlands. Researchers developed and tested the two-tonne capacity static bed dryer. The general objective of phase II is to establish the operational and economic feasibility of this dryer, utilizing coffee pulp as a fuel source. Researchers will test and modify the dryer to utilize coffee pulp (wet or pressed) as fuel sources; evaluate handling and storage, and drying of this pulp to fit with availability of labour, space, storage and drying needs; and disseminate research results through workshops and promotional material.

/DRYING/ - /COFFEE/ /BY-PRODUCTS/ /ENGINEERING DESIGN/
$92700 21 months
-INSTITUTO CENTROAMERICANO DE INVESTIGACION Y TECNOLOGIA INDUSTRIAL (ICAITI), GUATEMALA CITY, GT

81-0060 (AFNS)
PASSIVE COOLING (THAILAND)

The Northern Triangle of Thailand is an area where large numbers of poppies are grown for opium. Besides being illegal, opium production has resulted in extensive deforestation which threatens food production. There is a need to develop alternative production systems acceptable to the opium producers. However, before the wider establishment of crops to replace opium there is a need for on-site cool storage facilities to store produce so that it can be marketed advantageously. It is the intention of this project to develop a passive-cooled storage system for the storage of fruits and vegetables grown in the highlands of Northern Thailand. Specifically, the project will test and evaluate thermal performance of the storage system; test and evaluate the performance of the storage system on fruit and vegetable quality; and determine the socioeconomic feasibility of the storage system.

/STORAGE/ - /COOLING/ /ENGINEERING DESIGN/ /ENERGY/
$151900 42 months
-CHIANG MAI UNIVERSITY, CHIANG MAI, TH

81-0061 (AFNS)
PROCESS IMPROVEMENT (THAILAND)

Food processing is one of the most important industrial sectors in Thailand due to the large number of small-scale factories scattered throughout the country typically employing fewer than 50 workers. The existence of these small businesses is being increasingly threatened by the reliance of retailers and customers on the more secure suplies of processed foods from larger, more highly mechanized, food companies. Small factories need to improve the technical and economic efficiency of their operations. This project aims to develop methodologies for improving the operational management, processing and control procedures used in small factories, principally those producing traditional dried noodles. Studies will be undertaken to increase productivity, profitability, product quality and working efficiency.

/FOOD PROCESSING/ - /SMALL-SCALE INDUSTRY/
$107500 36 months
-THAILAND INSTITUTE OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH (TISTR), BANGKOK, TH

81-0062 (AFNS)
VILLAGE POST-HARVEST CENTRES (MAURITANIA)

In Mauritania, rice is quickly becoming the main crop and preferred food. The Government of Mauritania has put a priority on the production of high-yielding rice varieties within the Senegal River Basin, and is developing "perimetres" or village units of varying sizes to act as postharvest centres. In this project, two threshers, a solar dryer, a dehuller, and several alternative storage systems will be studied in different combinations to identify a post-production system for perimetres of approximately 80 hectares in size each within the River Basin. Researchers will determine the most suitable postharvest system for use in a typical perimetre; establish a rice postharvest centre at Diowol; and verify the introduced system's economic, social and technical acceptability.

/post-harvest systems/ - /RICE/ /HARVESTING/ /GRAIN PROCESSING/ /STORAGE/
$151100 36 months
-SOCIETE NATIONALE POUR LE DEVELOPPEMENT RURAL (SONADER), NOUAKCHOTT, MR

81-0063 (AFNS)
LEGUME UTILIZATION (PHILIPPINES)

Within the national food patterns of the Philippines, legumes are an under-utilized source of nutrients that complement the nutritive value of widely used staples such as rice. It has been demonstrated that homemakers can prepare a number of highly acceptable legume products at home for routine consumption. However, little use has been made of these recipes because most homemakers are not aware of them. The overall objective of this project is to increase the utilization and consumption of legumes through the promotion of various recipes in three barrios in Batangas province. Researchers will assess the acceptability of recipes using undehulled legumes in three provinces; determine the effect of three methods of promoting legume recipes; and examine the feasibility of producing legume products in a home-based cottage industry.

/LEGUMES/ - /FOOD CONSUMPTION/ /FOOD PREPARATION/
$74900 24 months
-UNIVERSITY OF THE PHILIPPINES AT LOS BANOS (UPLB), LOS BANOS, PH

81-0064 (AFNS)
SOYBEAN SEEDER (THAILAND) - PHASE I

The total acreage planted with soybeans in Thailand has increased sevenfold over the last twenty years, this however, has not been matched by a corresponding increase in total soybean production. Much of this can be attributed to the use of broadcast seeding as opposed to hand seeding, which has been necessitated by labour shortages. Soybeans are planted immediately following the rice harvest, thus the small farmer has to complete rice threshing, and plant the soybeans at the same time. In the traditional hand-seeding method soybean seeds are sown close to the rice stubble and at a plant density of approximately 200,000 hills (seed holes) per hectare. Researchers at the Asian Institute of Technology (AIT) developed a mechanical soybean seeder which demonstrated a saving of 20 percent in time. The objective of this project is to improve the manual mechanical soybean seeder and evaluate its performance and farmer acceptance at various locations in Thailand.

/SOYBEANS/ - /PLANTING/ /AGRICULTURAL MACHINERY/ /ENGINEERING DESIGN/
$32900 12 months
-ASIAN INSTITUTE OF TECHNOLOGY (AIT), BANGKOK, TH

81-0065 (HS)
ENTERIC INFECTIOUS DISEASES (MEXICO)

Intestinal infections and diarrheal diseases are among the major causes of morbidity and mortality in children of 0-5 years of age. The pattern of transmission of enteric infections among or between household members continues to be poorly understood and requires study. The objectives of this project are to determine the causes of acute, noncomplicated diarrhea in children under 2 years of age in a low socioeconomic urban area in Mexico City; determine the importance of household members as well as domestic animals in the transmission of enteric infections; and identify epidemiological factors and determine their relationship to the acquisition of diarrheal disease.

/INFECTIOUS DISEASES/ - /DISEASE TRANSMISSION/ /EPIDEMIOLOGY/
$104870 16 months
-INSTITUTO NACIONAL DE LA NUTRICION (INN), MEXICO, MX

81-0066 (SS)
TV PARTICIPATION AND DEVELOPMENT (FEPEC/CEDEN) (COLOMBIA)

Television is believed to be a prime means of implementing a strategy for development. However it is important to ensure that marginal groups are involved in the design and production of television programs in order to ensure that programs are suitable to their needs and reflect their cultural characteristics. The ability of different sectors of society to participate effectively is dependent to a large degree on the way the media are structured legally and in practice. The main purpose of this project is to examine legislation regulating television in Colombia, and to formulate policy recommendations concerning its further development. Researchers will analyze current legislation and its application and interpretation; operational structures; programming content; and mechanisms of access and participation.

/TELEVISION/ - /REGULATIONS/ /LEGISLATION/
$17500 8 months
-FUNDACION PARA LA EDUCACION PERMANENTE EN COLOMBIA / CENTRO PARA EL DESARROLLO DE LA EDUCACION NO FORMAL (FEPEC-CEDEN), BOGOTA, CO

81-0067 (SS)
CLASSROOM ENVIRONMENT AND STUDENT ACHIEVEMENT (NIGERIA)

The question of what kinds of teaching methods and types of classroom environments have an impact on the achievement of students will be addressed in this project. Funds will be provided to the University of Ibadan in Nigeria, to enable Nigeria to participate in a systematic and representative way in an 18-nation study of classroom environment and teacher training. Researchers will determine within one representative Nigerian state, the relationships between aspects of teaching practice and classroom environment, and educational outcomes, such as student achievement and attitudes. Teacher education programs will be designed to instruct teachers in improved teaching methods.

/TEACHING METHODS/ - /CLASSES/ /SCHOOL ENVIRONMENT/ /TEACHER TRAINING/
/STUDENT BEHAVIOUR/
$62000 36 months
-UNIVERSITY OF IBADAN, IBADAN, NG

81-0068 (HS)
TRAINING EVALUATION (GUATEMALA)

Gravity-fed water systems have been introduced in the highland communities of Guatemala by a nongovernment organization, the Agua del Pueblo. In order to maintain rural water supply programs sponsored by government as well as private organizations, Agua del Pueblo has established a training program for intermediate-level rural water technicians (Tecnico en Acueductos Rurales / TAR). The overall objectives of this project are to evaluate the training, performance and utilization of the TARs, prepare a field manual and further develop the research and evaluation skills of the Agua del Pueblo staff.

/TRAINING PROGRAMMES/ - /WATER SUPPLY/ /EVALUATION/
$67440   22 months
-AGUA DEL PUEBLO, ANTIGUA, GT

81-0069 (SS)
TRADE EXPANSION AND MONETARY COOPERATION (SOUTH ASIA)

Enhanced intra-regional trade is recognized to be an important way of promoting economic development in South Asia. It is the intention of this project to examine the prospects for expanding trade among six countries in South Asia: Bangladesh, India, Maldives, Nepal, Pakistan and Sri Lanka, through the joint removal of tariff and non-tariff barriers and through greater financial and commercial cooperation. Specifically the project will identify and evaluate the effects of tariff and non-tariff barriers on intra-regional trade; formulate a set of policy prescriptions for each country; and study the system of finance and transactions for international trade in each country and evaluate the effects of possible modifications.

/TRADE LIBERALIZATION/ - /INTERNATIONAL TRADE/ /TRADE PROMOTION/ /TRADE POLICY/ /REGIONAL COOPERATION/ /INTERNATIONAL PAYMENTS/
$152600   18 months
-MARGA INSTITUTE, COLOMBO, LK

81-0070 (SS)
INTERNATIONAL CARGO TRANSPORT (SOUTHERN ASIA)

Economic development of the nations in South and Southeast Asia has been accompanied by a rapid expansion in air and seaborne trade. This project will review and analyze the structure, conduct and performance of national flag carrier shipping and air cargo operations in India, Malaysia, Maldives, Philippines, Singapore and Sri Lanka. Researchers will assess the gains or losses resulting from increased cooperation and coordination among national flag carriers in the 1980's; and examine the progress made by countries in adopting the UNCTAD Code of Conduct on Liner Conferences and the Convention on Inter-Modal Transportation.

/SEA TRANSPORT/ - /AIR TRANSPORT/ /REGIONAL COOPERATION/ /FLAGS OF CONVENIENCE/ /COST-BENEFIT ANALYSIS/
$69000   15 months
-MARGA INSTITUTE, COLOMBO, LK

81-0071 (SS)
SMALL RESEARCH GRANTS (EAST AFRICA) - PHASE II

Over the past 15 years, intensive efforts have been made by domestic and international agencies to develop research capacity in the social sciences in East and Southern Africa. But the region continues to suffer from a lack of qualified, experienced social scientists. In phase I of this project IDRC offered awards to young scholars to supplement the ongoing Social Sciences Research Competition conducted by the Ford Foundation. The objective of phase II is to provide administrative and financial support for the 1981/82 round of the East African Social Sciences Research Competition, in order to further develop social science research capacity in the region.

/GRANTS/ - /social research/
$128300 15 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

81-0072 (HS)
ENDEMIC GOITRE/CRETINISM (GLOBAL)

Endemic goitre continues to be one of the most important public health problems in the world, especially in populations of developing countries. The gravity of endemic goitre stems from the accompanying developmental abnormalities, particularly endemic cretinism. The overall objective of this project is to detect developmental abnormalities associated with endemic goitre and make recommendations for their prevention. Specifically the project will establish in Algeria and Ecuador an epidemiological profile of endemic goitre and cretinism and other developmental abnormalities; screen and follow up high-risk newborns; study the relationship between maternal thyroid function and cretinism; and determine the role of thyroid hormones in maternal milk in the causation of congenital hypothyroidism.

/ENDEMIC DISEASES/ - /EPIDEMIOLOGY/ /DISEASE CONTROL/
$485410 36 months
-ORGANISME NATIONAL DE LA RECHERCHE SCIENTIFIQUE (ONRS), ALGER, DZ
-FUNDACION CIENCIA PARA EL ESTUDIO DEL HOMBRE Y LA NATURALEZA, QUITO, EC
-UNIVERSITE LIBRE DE BRUXELLES, BRUSSELS, BE

81-0073 (SS)
CODESRIA: SOCIAL SCIENCE NETWORKS IN AFRICA - PHASE III

The Council for the Development of Economic and Social Research in Africa (CODESRIA) is an organization of African research institutions designed to stimulate new research and to improve quality via enhanced cooperation and collaboration among its members. Phase I of this project enabled CODESRIA to establish a permanent Secretariat and carry its operations for the period 1976-78. Phase II provided a further grant to support CODESRIA activities through the triennium 1979-81. The objective of both of these grants was to assist CODESRIA in the identification and promotion of collaborative social science research in Africa through seminars, publications, and training and research programmes. This proposed grant will core-support CODESRIA over a further three-year period, 1982-84.

/ORGANIZATION OF RESEARCH/ - /social research/
$223000 36 months
-CONSEIL POUR LE DEVELOPPEMENT DE LA RECHERCHE ECONOMIQUE ET SOCIALE EN AFRIQUE (CODESRIA), DAKAR, SN

81-0074 (HS)
SEXUALLY-TRANSMITTED DISEASES (CHILE)

One of the most common and most important of the sexually-transmitted diseases (STD) is gonorrhea. The disease is present worldwide, and is an increasing problem in South America. The objectives of this project are to evaluate the effectiveness of procaine penicillin and tetracycline in the therapy of acute, uncomplicated gonorrhea in Chile; study the incidence of adverse reactions; and determine the minimum inhibitory concentrations of the strains isolated to various antibiotics and to correlate the results with the efficacy of the treatment. This project is part of a network of projects supported in Argentina, Brazil and Jamaica.

/VENEREAL DISEASES/ - /DISEASE CONTROL/ /ANTIBIOTICS/
$57200 12 months
-INSTITUTO DE SALUD PUBLICA, SANTIAGO, CL

81-0075 (SS)
ETHNICITY AND ADULT EDUCATION (LATIN AMERICA)

The educational attainment of Indians is very low and the educational services provided to them are poor. Among older Indian groups, educational opportunities are especially limited. The purpose of this project is to conduct a study on the conditions of educational services and opportunities rendered to Latin American native populations. The project will focus on literacy programs for adult Indians. Researchers will report on the problems of adult education, particularly literacy programs, among indigenous populations; analyze ethnic discrimination as it relates to adult Indian education; and propose recommendations capable of reorienting national educational policies toward the preservation of the cultural personality of native groups.

/ADULT EDUCATION/ - /ETHNIC GROUPS/ /DISCRIMINATION/ /LITERACY/
$15000 6 months
-ARTES Y CIENCIAS, BUENOS AIRES, AR

81-0076 (SS)
STATUS OF PRIMARY SCHOOL TEACHERS (EGYPT)

The Arab Republic of Egypt wishes to achieve universal primary education by the year 1990. The primary school teacher is the decisive factor in achieving the individual and national goals of universal education. Equating level of training with competence, the Ministry of Education in Egypt has increased the certification necessary to become a primary-school teacher. In order to upgrade practicing teachers, the Ministry is launching a massive 10-year upgrading and certification program. The purpose of this project is to carry out the research needed to complete the first stage of this program; that is, to evaluate the present status of primary teachers already at work in Egypt. Researchers will gather baseline data on the qualifications, skills, attitudes, opinions, and perceived needs of Egypt's primary school teachers.

/TEACHERS/ - /QUALIFICATIONS/ /PRIMARY EDUCATION/ /TEACHER TRAINING/
$73200 12 months
-AIN SHAMS UNIVERSITY, CAIRO, EG

81-0077 (SS)
FLACSO TRANSITIONAL SUPPORT GRANT (CHILE)

FLACSO (Latin American Faculties of Social Sciences) is a regional organization with centres in Argentina, Chile, Ecuador, and Mexico, which conducts research and training in the social sciences. With the withdrawal of Chilean government funds from the Santiago office of FLACSO, IDRC provided an institutional grant for one year to meet its operating and institutional costs and to maintain its independent and respected tradition of social science research in Chile. This project represents a transitional grant for FLACSO which is needed to complete its period of consolidation. It is felt that this grant is warranted as FLACSO continues to make a valuable contribution to independent social science research and discussion in Chile.

/social research/
$60000 12 months
-FACULTAD LATINOAMERICANA DE CIENCIAS SOCIALES (FLACSO), SANTIAGO, CL

81-0079 (AFNS)
SWEET POTATOES (PHILIPPINES) - PHASE I

The sweet potato plant is well adapted to conditions in the Philippines, and provides calories and several essential nutrients to the Filipino diet. The objective of this project is to support a sweet potato breeding program in the Philippines that aims to produce and release sweet potato varieties that possess the characteristics desired by the Filipino sweet potato farmers and consumers. Specifically, researchers will acquire, document and maintain a sweet potato germ plasm collection; increase sweet potato genetic variability; screen sweet potato genotypes grown from seed particularly for yield; identify varieties resistant to insects and diseases; and identify varieties acceptable to consumers and of good storage stability.

/SWEET POTATOES/ - /GENETIC IMPROVEMENT/
$76200 24 months
-VISAYAS STATE COLLEGE OF AGRICULTURE (VISCA), PASAY CITY, PH

81-0080 (IS)
THAI NATIONAL AGRIS CENTRE - PHASE I

This project will enable Thailand to improve and consolidate its agricultural information system within the regional International Information System for Agricultural Sciences and Technology (AGRIS) network, particularly through better coordination among Thai institutions. The project will permit Kasetsart University, recently selected as the new Thai national AGRIS centre, to build up the national network of agricultural libraries; familiarize agricultural librarians and documentalists with the products of AGRIS; and provide better access to agricultural literature.

/AGRIS/ - /INFORMATION SERVICES/
$37400 24 months
-KASETSART UNIVERSITY, BANGKOK, TH

81-0081 (AFNS)
CROPPING SYSTEMS (BANGLADESH) - PHASE III

Bangladesh is one of the poorest and most densely populated nations in the world. With virtually all arable land under cultivation, Bangladesh is concentrating on increasing land use intensity. The Bangladesh Rice Research Institute (BRRI) was established to accelerate rice research with the goal of increasing rice production. BRRI's Cropping Systems Program has been one of the most successful in Asia. However, the main benefit of this program has accrued to farmers living close to the cropping systems research sites. The purpose of phase III of this project is to identify extension and institutional intervention methods that effectively introduce the systems and the technologies over a much wider area, and to bring into the process a greater number of Bangladesh agricultural agencies.

/CULTIVATION SYSTEMS/ - /AGRICULTURAL EXTENSION/ /EXTENSION SERVICES/
$253100 36 months
-BANGLADESH RICE RESEARCH INSTITUTE (BRRI), DACCA, BD

81-0082 (AFNS)
MILK PRODUCTION SYSTEMS (GUYANA)

Due to the high cost of importing food requirements for the people of the Caribbean, there is a pressing need to improve livestock production. Present livestock production utilizes low producing, low quality pastures and less than adequate stock and pasture management. The general objective of this project is to increase the output of livestock products by the development of livestock production systems based primarily on forages and local by-products suitable for the Intermediate Savannah of Guyana. Researchers will develop appropriate techniques for pasture establishment and production of selected forage legumes and grasses; devise satisfactory management systems of grazing and stocking; and refine forage conservation practices.

/FORAGE CROPS/ - /ANIMAL PRODUCTION/ /GRAZING/ /DAIRY PRODUCTS/
$397700 36 months
-CARIBBEAN AGRICULTURAL RESEARCH AND DEVELOPMENT INSTITUTE (CARDI), ST. AUGUSTINE, TT

81-0083 (SS)
COMPREHENSIVE PRESCHOOL EDUCATION (TURKEY)

Public pre-school education is not available to the majority of children in Turkey, especially so for disadvantaged children. The government's current objective is to expand pre-school programs and to create suitable teaching materials for this level of education. The project here would study the difference in development of children who are exposed to pre-school programs compared with those who are kept at home or put in day care. The study would also incorporate a retrospective look at a group of adolescents who had a pre-school education a decade ago.

/PRESCHOOL EDUCATION/ - /CHILD DEVELOPMENT/
$127000 48 months
-BOGAZICI UNIVERSITY, ISTANBUL, TR

81-0084 (AFNS)
AFFORESTATION (BOLIVIA) - PHASE II

The development of the agricultural and forestry sectors in the Altiplano region of Bolivia is a priority of the Government of Bolivia. More than half of the population of Bolivia live on the Altiplano and the demand for fuelwood is high because freezing temperatures may occur on 200 days per year. The first phase of this project revealed the technical difficulties for successful tree planting in the rigorous climatic conditions of the Altiplano. While the results were negative in the central and southern regions of the Altiplano, the project demonstrated that successful artificial plantations were possible in the northern region, in the vicinity of Lake Titicaca. Phase II will concentrate activities in the northern Altiplano. The objectives of phase II are to continue the evaluation and selection of tree species suitable to the conditions of the region; and to initiate an extension program among the local rural communities to promote interest in small scale afforestation works.

/AFFORESTATION/
$247700 36 months
-MINISTRY OF RURAL AFFAIRS, AGRICULTURE AND CATTLE, LA PAZ, BO

81-0085 (SS)
A/D/C REGIONAL RESEARCH AND TRAINING PROGRAM (ASIA) 1982

The Regional Research and Training Program (Asia) of the Agricultural Development Council (A/D/C) provides for fellowships and grants, publications, and workshops to strengthen professional capacity in Asia to deal with the economic and human problems of agricultural and rural development in the region. A/D/C's Regional Research and training Program (RRTP) has been in operation for over nine years. This project will continue IDRC's support of RRTP activities in 1982.

/ORGANIZATION OF RESEARCH/ - /social research/ /GRANTS/
$380500 12 months
-AGRICULTURAL DEVELOPMENT COUNCIL (ADC), BANGKOK, TH

81-0086 (IS)
SUDAN AGRICULTURAL LITERATURE SERVICE (SUDALS)

Sudan is participating in AGRIS, the International Information System for Agricultural Sciences and Technology. This project will enable the Sudanese Agricultural Research Corporation (ARC) to control its own agricultural literature and to provide bibliographic services to the country, and increase national capacity to participate in AGRIS. Specifically, the project will improve capture of national agricultural literature; strengthen the library of ARC; improve cooperation between the ARC and other libraries throughout the country; provide a current contents service; and publish an annual national agricultural bibliography.

/AGRICULTURAL RESEARCH/ - /INFORMATION SERVICES/ /AGRIS/ /BIBLIOGRAPHY/
$115500 24 months
-AGRICULTURAL RESEARCH CORPORATION, WAD MEDANI, SD

81-0087 (IS)
LATIN AMERICAN EDUCATION DOCUMENTATION (CIDE) - PHASE II

The function of the Centre for Educational Research and Development (CIDE) is to collect documents of educational research and to see that the results of that research are made available for national educational planning. Phase I of this project enabled the establishment of a Latin American Educational Documentation System (REDUC), to improve the flow of educational information among Latin American countries and between Latin America and the rest of the world. Phase II will allow CIDE to strengthen the general Coordinating Centre of REDUC to handle the increased load which will be placed on it by the establishment of more education documentation centres within REDUC.

/EDUCATIONAL RESEARCH/ - /INFORMATION SYSTEMS/ /INFORMATION PROCESSING/
$314810 24 months
-CENTRO DE INVESTIGACION Y DESARROLLO DE LA EDUCACION (CIDE), SANTIAGO, CL

81-0089 (AFNS)
PEAS AND MAIZE IMPROVEMENT (BURUNDI) - PHASE II

Burundi is one of the poorest countries in Africa, whose population relies heavily upon maize and legumes for its sustenance. Phase I of this project supported research which sought to improve the yield of beans and maize, especially varieties grown at higher altitudes, as much of Burundi is at a high altitude. The government of Burundi has requested support for a second phase of the project in order to continue the work on maize but with a second concentration on peas instead of beans. Researchers will continue and extend the selection and breeding program for both maize and peas, and carry out agronomic experiments to determine the optimum packages of practices for growing these crops.

/MAIZE/ - /GENETIC IMPROVEMENT/ /CULTIVATION PRACTICES/
$350640 24 months
-MINISTERE DE L'AGRICULTURE, DE L'ELEVAGE ET DU DEVELOPPEMENT RURAL, BUJUMBRA, BI

81-0090 (IS)
SORGHUMS AND MILLETS INFORMATION CENTRE - PHASE II

The Sorghum and Millets Information Centre (SMIC) at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is responsible for collecting information on sorghum and millets. The first phase of this project covered the establishment of the information centre, the collection of literature, the training of staff and the commencement of services. Phase II will continue to support the activities of SMIC particularly by introducing better document delivery techniques and preparing the way for mechanization.

/SORGHUM/ /MILLET/ - /INFORMATION SERVICES/ /DATA PROCESSING/
$328130 36 months
-INTERNATIONAL CROPS RESEARCH INSTITUTE FOR THE SEMI-ARID TROPICS (ICRISAT), ANDHRA PRADESH, IN

81-0092 (IS)
NATIONAL AGRIS CENTRE (SRI LANKA)

Sri Lanka responded to FAO's invitation to participate in the International Information System for Agricultural Sciences and Technology (AGRIS) but has never been able to fulfill its commitment for lack of resources. This project would assist Sri Lanka to put its national AGRIS centre into operation, while strengthening its main agricultural library and establishing a national agricultural information network to capture its national literature and to disseminate information. The Central Library of the Department of Agriculture housed at the Central Agricultural Research Institute (the CARI Library) will function both as a national resource and referral centre and as the Sri Lankan National AGRIS Centre. Funds will be provided for the recruitment and stationing of an expatriate advisor.

/AGRIS/
$175600 30 months
-DEPARTMENT OF AGRICULTURE, PERADENIYA, LK

81-0093 (SS)
INTERNATIONAL MIGRATION (EASTERN CARIBBEAN)

Migration has always been a part of the Caribbean experience. Since the 1950's, the pattern of Caribbean migration has shifted from an intra-regional movement to international flows. Caribbean policymakers and planners have begun to express concern regarding the possible negative economic consequences of this shift in migration. This project will examine the economic and social impact of emigration to Canada on the sending societies of Barbados, St. Lucia, St. Vincent and Grenada. Specifically, the project will describe the characteristics of migrants and their motivations and perceptions; provide information on the magnitude and utilization of remittances at the household level; and explore the interrelations among these variables.

/EMIGRATION/ - /MIGRANT WORKERS/ /ATTITUDES/
$165501 24 months
-UNIVERSITY OF THE WEST INDIES (UWI), BRIDGETOWN, BB

81-0094 (HS)
SYPHILIS (ZAMBIA) - PHASE I

Syphilis is not the commonest of the sexually-transmitted diseases (STD), but it remains the most important member of this group of infections. The most dreaded complication of syphilis is congenital syphilis which may occur when a pregnant woman with syphilis goes untreated and the disease spreads to the fetus. This may be associated with fetal abnormalities, stillbirths and neonatal deaths. The objectives of this project are to determine the prevalence of syphilis in pregnant women in selected areas of Zambia; and assess the prevalence of congenital syphilis.

/VENEREAL DISEASES/ - /DIAGNOSIS/ /PREGNANCY/
$125500 24 months
-MINISTRY OF HEALTH, LUSAKA, ZM

81-0095 (IS)
AGRICULTURAL THESAURI

IDRC has been particularly effective in helping the institutions of the developing countries to adopt compatible thesauri for indexing purposes. In the agricultural field, IDRC supported the development of a controlled vocabulary for agriculture (AGROVOC), and prepared more specific thesauri for particular crops and particular information analysis centres. This project will provide for the continuation on Information Sciences agricultural thesaurus work, particularly in connection with the International Information System for Agricultural Sciences and Technology (AGRIS) and specialized information analysis centres. Specific objectives of the project are to compile microthesauri; assist in the training of users of agricultural thesauri and in thesaurus compilation; to advise on the maintenance of AGROVOC and on the development of printed indexes based upon AGROVOC; and arrange for translations of agricultural thesauri into other languages.

/THESAURUS/ - /AGRIS/
$349000 24 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

81-0096 (AFNS)
QUINOA PRODUCTION (ECUADOR) - PHASE I

Quinoa (Chenopodium quinoa Willd), a food grain of the goose-foot family, forms an important part of the diet of the rural communities of the High Andes in South America. In nutritional composition quinoa is demonstrably superior to all known cereal grains. This project will provide support to the Ecuadorian National Agricultural Research Institute (INIAP) in its attempt to improve the technology of quinoa production in Ecuador. The project will identify constraints to and potential demand for new production technologies and institutional services; acquire a complete collection of quinoa germ plasm material and establish a quinoa genetic improvement program in INIAP; adapt research results to farmers' fields; and provide training for agricultural technicians.

/food crops/ /cultivation practices/
$273900 36 months
-INSTITUTO NACIONAL DE INVESTIGACIONES AGROPECUARIAS (INIAP), QUITO, EC

81-0097 (SS)
URBAN FOOD MARKETS (MEXICO)

With over 15 million inhabitants, Mexico City is the largest urban agglomeration in the developing world. The supply and distribution of food presents a wide range of problems in terms of access, regularity, adequacy and safety of food supplies, particularly for the urban poor. The objective of this project is to conduct a socioeconomic study of the portion of Mexico City's food system that links consumers to wholesalers, with a special emphasis on the urban poor. Emphasis will be placed on the study of food distribution channels, including Mexico's largest produce market, prepared meal outlets, and government outlets; consumer characteristics and behaviour, including food supply strategies; and government food programs.

/FOOD SUPPLY/ - /DISTRIBUTION/ /CONSUMER BEHAVIOUR/ /MARKETING/ /SUBSIDIES/
$157000 18 months
-EL COLEGIO DE MEXICO, MEXICO, MX

81-0098 (SS)
SOCIO-DEMOGRAPHIC IMPACT OF BASIC SERVICES PROGRAM (PAKISTAN)

In countries such as Pakistan, concerted efforts are being made to increase standards of living and quality of life for those living in the crowded confines of squatter and slum areas. In 1971 the government of Pakistan undertook a program of basic needs which aimed at the identification and provision of minimum standards of facilities and services, including health and family planning, education, housing and basic urban services. This project will initiate a comparative study of the social and demographic impact of this Basic Needs Program in the city of Lahore's squatter settlements. The project will identify policies and programs directed towards the needs of poor urban families; describe the social and cultural conditions of these families; identify the basic needs of these families; and examine community participation.

/SOCIAL SERVICES/ - /BASIC NEEDS/ /DEVELOPMENT POLICY/
$80000 18 months
-EAST-WEST POPULATION INSTITUTE, HONOLULU, US
-UNIVERSITY OF THE PUNJAB, LAHORE, PK

81-0099 (IS)
LANDSAT PHOTOMAPPING (EASTERN AND SOUTHERN AFRICA)

Applied research and thematic cartography using Landsat (satellite) imagery offers advantages in natural resource studies, especially in the developing countries. The goal of this project is to support local research and application work as may be required for the proper production and publication of thematic maps based essentially on remote sensing imagery. Specifically the project will initiate a Landsat photomapping project at the Regional Centre for Services in Surveying and Mapping (RCSSM) in Kenya for the benefit of participating countries in Eastern and Southern Africa. The project will provide RCSSM with required resources; support RCSSM in the necessary research and development work and in the drafting of guidelines for photomap production; and ensure the production by RCSSM of a target number of 24 photomaps.

/MAPPING/ - /REMOTE SENSING/
$325000 30 months
-REGIONAL CENTRE FOR SERVICES IN SURVEYING AND MAPPING (RCSSM), NAIROBI, KE

81-0100 (HS)
ENVIRONMENTAL SANITATION (GAMBIA)

Adequate and safe drinking water supplies and appropriate sanitation facilities play important roles in the health of a community. An important component of modern water supply and sanitation research programs is the acceptance and cooperation of the local community. This project aims to demonstrate that a program of community participation supported by a health education component will promote the understanding, motivation and cooperation necessary for the successful implementation of improved water supply and sanitation facilities in a Gambian village. The project will also provide training opportunites and act as a model for the development of similar projects in other villages.

/SANITATION/ - /HEALTH EDUCATION/ /SOCIAL PARTICIPATION / /WATER SUPPLY/
$54850 24 months
-GAMBIA COLLEGE, BANJUL, GM

81-0101 (AFNS)
GRAIN LEGUMES (ICARDA) - PHASE III

ICARDA has developed a highly successful food legume improvement program that has been particularly effective in helping to build strong national legume research programs in a number of countries in the Middle Eastern Region. The ICARDA program concentrates on three main legume crops: lentils, faba beans, and chickpeas. The main objectives of Phase III of this project are to continue to develop improved cultivars and to develop appropriate agronomic practices for existing and improved cultivars. The emphasis in Phase III will be upon more widespread demonstration and adaptation of the many valuable results among the farming community of the region that stretches from Bangladesh and Pakistan in the East to Morocco in the West; from Turkey in the North to Ethiopia and Sudan in the South.

/LEGUMINOSAE/ - /FABA BEANS/ /LENTILS/ /CHICKPEAS/ /GENETIC IMPROVEMENT/
$950000 24 months
-INTERNATIONAL CENTER FOR AGRICULTURAL RESEARCH IN THE DRY AREAS (ICARDA), ALEPPO, SY

81-0102 (IS)
NATIONAL AGRINTER CENTRE (COSTA RICA)

Costa Rica is participating in AGRINTER, the Latin American and Caribbean regional agriculture information network, and the International Information System for Agricultural Sciences and Technology (AGRIS), the global network. This project will assist Costa Rica in organizing its agricultural information network, so that it can capture and bibliographically control its agricultural literature better and can participate more effectively in regional and global agricultural information networks. It will strengthen the technical capacity of the national coordinating centre CENIA (National Centre for Information on Agriculture and Cattle); establish an effective network of agricultural libraries and documentation centres; strengthen the human resources in these libraries and information centres; and make information more accessible to research workers, planners, and the agricultural community.

/INFORMATION SYSTEMS/ - /INFORMATION SERVICES/ /BIBLIOGRAPHY/
$68622 24 months
-MINISTERIO DE AGRICULTURA Y GANADERIA, SAN JOSE, CR

81-0103 (HS)
WATER SUPPLY SURVEY (THAILAND)

Small water treatment plants designed to serve populations ranging from 2,000 to 5,000 have been constructed in Thailand to provide an adequate supply of clean water to rural populations. This project will focus on determining the various problems and constraints related to the operation, maintenance and efficiency of these treatment facilities. Background data concerning existing treatment plants will be collected and the technical efficiency of these plants will be studied. Management practices, operational costs, operational capacity and distribution systems will be studied and recommendations for improving and expanding such systems will be made. A simple instruction manual on the operation, control and maintenance of these treatment plants will be provided for use by the Provincial Water Works Authority.

/WATER TREATMENT/ - /MAINTENANCE AND REPAIR/ /WATER SUPPLY/ /WATER CONSUMPTION/
$42850 12 months
-MAHIDOL UNIVERSITY, BANGKOK, TH

81-0104 (SS)
THE ROLE OF THE SCIENTIFIC COMMUNITY (PERU)

The majority of developing country governments have supported technology in contrast to science because they believe that it has a direct relevance to solving development problems. However, some developing country governments, such as Peru, are realizing the need to develop technological and scientific skills jointly. The Peruvian government has recently announced that it wishes to support science and help build a scientific infrastructure in the country. This project represents an initial exploration of scientific behaviour in four disciplines within the Peruvian scientific community. The project will describe the growth of mathematics, seismology, biology, and economics; and undertake a survey of scientists in these disciplines to build a profile of scientific behaviour.

/SCIENTISTS/ - /SCIENCE POLICY/
$85100 18 months
-GRUPO DE ANALISIS PARA EL DESARROLLO (GRADE), LIMA, PE

81-0105 (HS)
HYGIENIC HABITS/FOOD PREPARATION (CHILE)

Peri-urban slum areas are noted for substandard housing, inadequate levels of environmental sanitation and poor socioeconomic conditions which promote and maintain a high incidence of diarrheal disease. The Government of Chile is presently conducting a program to relocate groups of families living in extreme poverty to housing comparable to that of middle-class families. This project will identify specific health and hygienic practices of the population before and after relocation and correlate the results with origin of habits, educational level and occupational history.

/HYGIENE/ - /LIVING CONDITIONS/ /FOOD PREPARATION/
$8660 19 months
-INSTITUTO DE NUTRICION Y TECNOLOGIA DE LOS ALIMENTOS (INTA), SANTIAGO, CL

81-0106 (HS)
SEXUALLY-TRANSMITTED DISEASES (ARGENTINA)

Sexually-transmitted diseases (STD) continue to spread unabated throughout the world. Most developing countries do not possess any basic clinical and laboratory data on STD, and in the planning of control programs, this information is essential. This project will monitor penicillin-resistant gonorrhea in two Argentinian hospitals. Specifically, this project will evaluate the effectiveness of three antibiotics: procaine penicillin, sodium penicillin and doxycycline; study the incidence of adverse reactions; and determine the minimum inhibitory concentrations (MIC) of the strains isolated to various antibiotics and to correlate the results with the efficacy of the treatment. This project is part of a network of projects supported in Brazil, Chile and Jamaica.

/VENEREAL DISEASES/ - /DISEASE CONTROL/ /ANTIBIOTICS/
$49460 12 months
-INSTITUTO NACIONAL DE DERMATOLOGIA SANITARIA, BUENOS AIRES, AR

81-0107 (IS)
NATIONAL AGRINTER CENTRE (CHILE)

Chile is participating in AGRINTER, the Latin American and Caribbean regional agriculture information network, and the International Information System for Agricultural Sciences and Technology (AGRIS), the global network. This project will improve the collection and bibliographic control of Chilean agricultural literature and, through mechanization, make it and the world's agricultural literature more readily available to Chilean users. It will strengthen the operational capacity of the national coordinating centre Biblioteca Central; improve the mechanisms for cooperation with other libraries and information centres in the agricultural sector; promote the adoption of AGRIS/AGRINTER methodology; develop mechanized output services; and provide training in data base management and provision of services.

/INFORMATION SERVICES/ - /AGRIS/ /LIBRARY AUTOMATION/
$68600 24 months
-INSTITUTO DE INVESTIGACIONES AGROPECUARIAS (INIA), SANTIAGO, CL

81-0108 (HS)
SKIN DISEASES (THAILAND)

Skin diseases, such as filariasis, yaws, leprosy, scabies and other parasitic infections, are very common in developing countries and usually go unrecognized and untreated due to the lack of trained health professionals and appropriate treatment facilities. This project will support the Institute of Dermatology in Bangkok, Thailand to carry out a national baseline survey to determine the extent of skin diseases in Thailand and formulate an effective control program. Specifically, the project will determine the distribution pattern of skin diseases in Bangkok and selected regions in Thailand; upgrade the diagnostic and treatment skills of health professionals and the existing health record for skin diseases; and improve the referral system between the Institute of Dermatology and the regional hospitals.

/infectious diseases/ /skin/ /disease control/
$52700 18 months
-MINISTRY OF PUBLIC HEALTH, BANGKOK, TH

81-0109 (HS)
SUBDERMAL IMPLANTS (COLOMBIA)

The subdermal implant containing the steroid levonorgestrel (Norplant), developed and tested by members of the International Committee for Contraceptive Research (ICCR), has shown great potential as a method to be used in national family planning programs. This project will introduce and evaluate Norplant in two outpatient clinics in Colombia which offer family planning services. Specifically the project will determine the rates of acceptability, failure and side effects of Norplant; train health personnel in the use of the method; and spread knowledge of the implant to health personnel outside the study area.

/CONTRACEPTIVES/
$96950 24 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA
-CORPORACION CENTRO REGIONAL DE POBLACION (CCRP), BOGOTA, CO
-POPULATION COUNCIL, NEW YORK, US

81-0110 (SS)
INSTITUTIONAL SUPPORT GRANT - AHC (CHILE) - PHASE I

The Christian Humanity Academy (AHC) of Santiago, Chile, was established in 1975 in response to the crisis facing researchers, university staff, and students in the social sciences and humanities resulting from the military coup of September 1, 1973. The Academia has proved to be indispensable for the continuation of thought about and research on social issues in Chile. The objective of this project is to provide institutional support in order to strengthen the financial and administrative stability of the Academia and thus improve the effectiveness of the legal and administrative support it offers. Funds will be used to establish a research fund which will permit the Academia to undertake special studies, and will permit acquisition and development of research and teaching materials, including improved library facilities.

/social research/
$150000 36 months
-ACADEMIA DE HUMANISMO CRISTIANO (AHC), SANTIAGO, CL

81-0111 (SS)
INSTITUTIONAL SUPPORT GRANT - PIIE (CHILE)

The objectives of the Interdisciplinary Program for Research in Education (PIIE) are to study the relationships between education and the distribution of social opportunities in Latin America, to examine the major effects of this relationship on individuals and groups, and to suggest solutions to the problem of unequal distribution of opportunities. The objective of this project is to support the research program of PIIE by providing an institutional support grant. Funds provided through this project will provide salary support for staff, and permit the dissemination of research results and the improvement of library services.

/social research/ - /EDUCATION/
$100000 36 months
-PROGRAMA INTERDISCIPLINARIO DE INVESTIGACION EN EDUCACION (PIIE), SANTIAGO, CL

81-0112 (SS)
INDIVIDUAL ACADEMIC ASSISTANCE PROGRAM (CLACSO) - PHASE II

The Latin American Social Science Council (CLACSO) promotes the development of the social sciences in various ways; through seminars, research grants, information exchanges, meetings, etc. Phase II of this project will aid CLACSO in developing and funding a program of individual academic assistance. Specifically, it will provide funds for scholars who are considered to be in difficult circumstances; junior researchers, to enable them to undertake a short research project in association with a more senior colleague; and a small publications program to disseminate the results of research undertaken by this program.

/social research/ - /SCHOLARSHIPS/
$192000 24 months
-CONSEJO LATINOAMERICANO DE CIENCIAS SOCIALES (CLACSO), BUENOS AIRES, AR

81-0113 (AFNS)
STRIGA (UPPER VOLTA) - PHASE II

Striga is a pernicious weed that attacks sorghum and millet seriously, reducing yields in several regions of Africa. The general objective of this project is to develop methods to limit the depradation of sorghum and millet by Striga in West Africa. The emphasis in Phase I was on the identification of sorghum or millet cultivars resistant or tolerant to Striga attack. In Phase II there will be a continuation of efforts to identify resistant cultivars as well as initiate a concentrated breeding program to incorporate genetic resistance to Striga in high-yielding sorghum and millet cultivars. The project will study Striga behaviour in relation to climatic factors and host cultivars, and develop agronomic management practices for Striga control.

/WEED CONTROL/ - /SORGHUM/ /MILLET/ /GENETIC IMPROVEMENT/
$500000 24 months
-INTERNATIONAL CROPS RESEARCH INSTITUTE FOR THE SEMI-ARID TROPICS (ICRISAT), ANDHRA PRADESH, IN

81-0114 (AFNS)
FOOD LEGUMES (UPPER VOLTA) - PHASE III

Food legumes, particularly cowpeas and bambarra groundnuts are of major importance for the rural communities of Sahelian countries. Phases I and II of this project have made excellent progress in increasing the productivity of the cowpea crop in Upper Volta. The objectives of phase III are to continue developing high and stable yielding cultivars and management practices for cowpeas and bambarra groundnuts acceptable to farm families. This phase of the project will emphasize the testing of the most promising improved varieties in monocropping and relay cropping patterns on farms, in close cooperation with the farmers themselves. In addition, screening and testing of local and introduced germplasm of bambarra groundnuts will be conducted.

/LEGUMINOSAE/ - /COWPEAS/ /GROUNDNUTS/ /GENETIC IMPROVEMENT/ /CULTIVATION SYSTEMS/
$182700 24 months
-BURKINA FASO. MINISTERE DU DEVELOPPEMENT RURAL, OUAGADOUGOU, BF

81-0115 (AFNS)
PASTURE DEVELOPMENT (CHILE) - PHASE II

Milk and meat production in Chile is insufficient to meet demands because of an inadequate feed supply and the underfeeding of livestock. Phase I undertook research to improve forage-based feeding systems that would increase the availability and reduce the production costs of meat and milk. Work has concentrated on germplasm evaluation to select high yielding grasses and legumes to supply feedstuffs in a more uniform way throughout the year. Phase II of this project will continue to test new forage germplasm, and likewise their incorporation into crop rotations. Other activities in Phase II will be the examination of agronomic characteristics of newly selected forage species; the determination of the nutritive value of selected species and their suitability to silage making; and the designing of a simple production model that integrates the animal and forage subsystems.

/FEED/ /forage crops/ /FEED PRODUCTION/ /GENETIC IMPROVEMENT/ /CULTIVATION PRACTICES/ /ANIMAL NUTRITION/ /STORAGE/
$325000 24 months
-PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE, SANTIAGO, CL

81-0116 (AFNS)
GROUNDNUTS (MALAWI) - PHASE I

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) has the world responsibility for groundnut improvement and has developed an excellent groundnut breeding program in India. This project will support a regional ICRISAT groundnut breeding program for Eastern and Southern Africa. Specifically, the project will introduce groundnut germ plasm from ICRISAT; test and select groundnut material adapted to the different agro-ecological conditions of Eastern and Southern Africa; strengthen the national groundnut research and development programs in Malawi, Mozambique, Tanzania, Zimbabwe and other participating countries to enable these countries to carry out breeding and agronomic research and testing to increase groundnut production; and train scientists from the Eastern and Southern Africa region.

/GROUNDNUTS/ - /GENETIC IMPROVEMENT/
$590000 24 months
-INTERNATIONAL CROPS RESEARCH INSTITUTE FOR THE SEMI-ARID TROPICS (ICRISAT), HYDERABAD, IN

81-0117 (AFNS)
OILSEEDS (EGYPT) - PHASE II

In Egypt, oilseed crops such as sesame, groundnuts, sunflower, and rapeseed have great potential to bolster the waning food oil industry. Phase I of this project initiated an extensive research program aimed at improving these oilseed crops. Researchers made impressive progress in the area of breeding for better varieties and several lines were identified and developed that proved superior to the existing ones. Phase II represents IDRC's continued support of the research program and will permit researchers to continue the breeding and adaptation work, to expand the economic evaluation of production technology, and to demonstrate profitability to farmers. Researchers will initiate a multiple cropping research study to increase cropping intensity, total crop yield and net cash return per unit area.

/OILSEEDS/ - /GENETIC IMPROVEMENT/ /CULTIVATION PRACTICES/ /CULTIVATION SYSTEMS/
$279500 36 months
-AGRICULTURAL RESEARCH CENTRE, CAIRO, EG

81-0118 (AFNS)
PROCESS IMPROVEMENT BAKERIES (CHILE) - PHASE I

The bread industry in Chile is experiencing a period of change as it copes with the situation of free market, freedom of import barriers and lack of credit controls that exist in Chile. The small traditional family bakery business is becoming increasely vulnerable to competition from newly established small bakeries and larger more mechanized bakery factories. The overall objective of this project is to improve operations in small-scale neighbourhood bakeries in Chile, and to increase productivity, profitability and product quality in these plants. The project intends to determine the nature and degree of variability in the raw materials, flour and yeast; in the dough mixing, dividing and moulding machines; in oven fuel consumption; and in labour demand, among bakeries, among shifts and seasons within bakeries.

/BAKERY PRODUCTS/ - /SMALL-SCALE INDUSTRY/ /MANAGEMENT TECHNIQUES/
$68700 15 months
-INSTITUTO DE INVESTIGACIONES TECNOLOGICAS (INTEC), SANTIAGO, CL

81-0119 (SS)
POVERTY-REDRESSAL PROGRAMS (MANILA)

Many developing countries have adopted programs to combat worsening problems of income distribution and persistent poverty. The Philippine government has adopted a range of policy instruments, for example, progressive taxation, minimum wage and price controls, in an attempt to redress poverty. The objective of this project is to evaluate poverty-redressal programs in the Philippines aimed at improving the welfare of the urban poor. Specifically researchers will describe and analyze the range of programs/assistance/services that are available in the study areas in Metro Manila; assess the effectiveness of these programs in meeting their stated objectives; and study the priorities and expectations of the poor, and their awareness of and participation in the various programs designed for their benefit.

/POVERTY/ - /SOCIAL POLICY/
$46000 18 months
-UNIVERSITY OF THE PHILIPPINES, QUEZON CITY, PH

81-0120 (AFNS)
DRY ZONE AFFORESTATION (ZIMBABWE)

Wood is the prime and preferred source of energy for domestic cooking and heating in the rural areas of Zimbabwe. The demand for fuelwood has led to serious depradation of the indigenous forest species, especially in the poorest areas of the country in the dry zones. It is the intention of this project to establish tree plantations in the arid and semi-arid zones of Zimbabwe and to integrate such plantations with local pastoral and agricultural activities. Researchers will select suitable tree species for fuelwood production and introduction into tree/pasture/food crop systems; identify suitable tree/pasture/food crop systems for the semi-arid zones; and develop plantation management techniques for maximum production of eucalypt plantations and woodlots in the semi-arid zone.

/AFFORESTATION/ - /AGROFORESTRY/ /FUELWOOD/
$297200 36 months
-ZIMBABWE FORESTRY COMMISSION, HARARE, ZW

81-0121 (SS)
A COMPARATIVE STUDY OF THE PEOPLE'S SCHOOLS (PHILIPPINES)

The design of education for rural development lies at the crux of many development programs in the Third World. This project will examine an innovative program which combines education with rural development, the People's School Approach (PSA) of the International Institute of Rural Reconstruction in the Philippines. PSA is characterized by three strategies or components: leadership development, technology transfer (through training), and the development of people's organizations. This project will result in a description of the PSA as a general pattern of development and of the various adaptations of its strategies and operational processes. It will also assess the impact of the approach on the peasants at which it is directed.

/EDUCATIONAL INNOVATIONS/ - /ADULT EDUCATION/
$150000 30 months
-INTERNATIONAL INSTITUTE OF RURAL RECONSTRUCTION (IIRR), MANILA, PH

81-0122 (SS)
INFANT MORTALITY (NIGERIA)

The government of Nigeria has a keen interest in lowering the high infant death rates prevailing in the country. With this aim, the government has financed in recent years many maternity centres and hospitals where antenatal care and delivery services are offered. The objective of this project is to assess the impact of antenatal care and maternity centres in reducing levels of infant mortality and to identify socioeconomic correlates of infant mortality in the Ile-Ife area of Nigeria.

/INFANT MORTALITY/ - /MATERNAL AND CHILD HEALTH/ /HEALTH SERVICES/
$60000 12 months
-UNIVERSITY OF IFE, ILE-IFE, NG

81-0123 (SS)
PUBLIC ACTION AND POPULATION DISTRIBUTION (CENTRAL AMERICA)

The Central American countries are characterized by an imbalanced spatial distribution of the population, with some regions being very densely populated while others are virtually uninhabited. The spatial distribution of population can be seen as the historical result of a series of locational decisions made by both the public and private sectors. The objective of this project is to achieve a greater understanding of the relationships between public action and population distribution in Costa Rica, Honduras and Nicaragua over the period 1945-1980, with particular emphasis on the last decade. Researchers will examine government policies and programs with respect to population distribution, and the mechanisms for implementing those policies and programs.

/POPULATION DISTRIBUTION/ - /GOVERNMENT POLICY/
$24000 13 months
-CONSEJO SUPERIOR UNIVERSITARIO CENTROAMERICANO (CSUCA), SAN JOSE, CR

81-0124 (SS)
BARGAINING FOR TECHNOLOGY (TANZANIA)

Developing countries are at a disadvantage when bargaining for technology as they are inadequately equipped to make a judicious selection of technology and are unable to take advantage of the competition among suppliers for the wide range of available technologies. The objective of this project is to analyze the bargaining policies and position of Tanzanian public enterprises involved in negotiations to acquire technologies. Researchers will examine the record of several Tanzanian public enterprises in past negotiations for foreign technology in order to indicate how their future negotiating position can be improved.

/TECHNOLOGY TRANSFER/ - /PUBLIC ENTERPRISES/ /TECHNICAL ASSISTANCE/
/SCIENCE POLICY/
$26500 24 months
-UNIVERSITY OF DAR ES SALAAM, DAR ES SALAAM, TZ

81-0125 (SS)
WOMEN'S PARTICIPATION IN COMMUNITY ORGANIZATIONS (PERU)

The majority of studies conducted about women in developing countries have centered on middle-class women, because access to poor and destitute women is usually difficult to gain. Information is needed on the experience of low-income women in community organizations. This project will analyze various factors that affect the ability of women to understand their social environment, participate in community life, and improve their living conditions. Researchers will examine the relationship between levels of education and the occupational experiences of low-income women; identify the cultural, social, and economic constraints that preclude women from greater participation in community and labor organizations; and describe experiences in popular participation and collective solutions to family and community problems of low-income women.

/WOMEN/ - /SOCIAL PARTICIPATION/ /EDUCATION OF WOMEN/ /COMMUNITY RELATIONS/
$34600 12 months
-EQUIPO DE ASESORAMIENTO A ACTIVIDADES PRODUCTIVAS EN SECTORES POPULARES (EDAPROSPO), LIMA, PE

81-0126 (AFNS)
GRAIN STORAGE (TANZANIA)

Improvements in grain storage systems are urgently needed throughout East and Southern Africa. The losses that occur during storage of cereals due to insects, rodents and fungi are significant. This project will increase the quantity of maize and sorghum available to the Tanzanian farmer through the introduction of improved storage structures. The project will analyze the advantages and disadvantages of traditional storage methods and their potential improvement; undertake a grain storage loss assessment for maize and sorghum; and determine the most important storage pests and fungal species.

/STORAGE/ - /MAIZE/ /SORGHUM/
$174300 36 months
-UNIVERSITY OF DAR ES SALAAM, MOROGORO, TZ

81-0127 (AFNS)
ALTERNATE FOODS (PHILIPPINES)

The present and potential values of alternate foods in the world food supply have been recognized for some time. Recently, nutritionists in the Philippines have been attempting to identify available and underutilized tropical foods. In the Philippines, various wild and semi-cultivated tropical plants, insects, molluscs, fowl, game and fish are frequently consumed by rural households. A survey of alternate foods in the Philippines begun in 1978 has since lapsed due to inadequate funding. This project will complete the identification, collation and analysis of the data gathered in a 1978-80 survey; survey the use of alternate foods in at least 19 provinces of the Mindanao region; and present the results at a workshop for the identification of further research priorities on specific alternate foods.

/FOOD CONSUMPTION/ - /RURAL AREAS/ /FOOD SUPPLY/ /PLANTS/ /NUTRITIVE VALUE/
$43280 24 months
-UNIVERSITY OF THE PHILIPPINES, QUEZON CITY, PH

81-0128 (AFNS)
SOLAR CROP DRYERS (BANGLADESH)

In a hot humid country such as Bangladesh the need for drying facilities at the site of production is essential if post-production losses are to be kept to a minimum. This project will study two dryer prototypes: the Asian Institute of Technology (AIT) solar dryer and the Bangladesh Council of Scientific and Industrial Research solar dryer called the MCC dryer. Researchers will investigate the suitability of the AIT dryer for drying of paddy during the rainy season and for drying of fruits and vegetables during the off-season, and the suitability of the MCC dryer for small-scale drying of paddy. The two systems will be field tested in order to develop efficient village level food drying techniques that are economically attractive and culturally acceptable to the farmers of Bangladesh.

/DRYING/ - /post-harvest systems/ /ENGINEERING DESIGN/
$53100 24 months
-BANGLADESH AGRICULTURAL UNIVERSITY, MYMENSINGH, BD

81-0129 (AFNS)
GROUNDNUT DRYERS (THAILAND)

Delayed or inadequate drying of harvested groundnuts presents a serious health hazard through mycotoxin contamination, in addition to impaired quality and economic value. Little attention has been given to postproduction technologies for the small-scale groundnut groves in developing countries. This project will introduce improved drying techniques for groundnuts in Thailand in an attempt to reduce postharvest losses in quality and quantity, and enhance the economic feasibility of groundnut production by the Thai farmer. Researchers will develop small-scale groundnut dryers for use by farmers and farmer cooperatives; field-test and optimize dryer prototypes; and train extension workers and farmers in the construction and operation of these dryers.

/GROUNDNUTS/ - /DRYING/
$118400 30 months
-KHON KAEN UNIVERSITY, KHON KAEN, TH

81-0130 (AFNS)
BAMBOO (CHINA)

Bamboos occur in all continents except Europe. The utility of bamboos is so great that more than a thousand practical uses have been identified in countries like Japan and China. The long-term objective of this project is to increase the production of bamboo in China by more intensive cultivation of natural bamboo stands and by selecting high-yielding native bamboo species of good quality for various end-uses. The short-term objectives of the project are to establish living collections of the most promising high-yielding native bamboos and to test cold-resistant species; to investigate the effects of fertilization on the productivity of existing stands of Phyllostachys pubescens; and to determine the physical, mechanical and chemical properties of the main native bamboo species and the nutritive value of edible bamboo shoots.

/BAMBOO/ - /GENETIC IMPROVEMENT/ /CULTIVATION PRACTICES/
$265500 36 months
-CHINESE ACADEMY OF FORESTRY, BEIJING, CN

81-0131 (AFNS)
ROOT CROP STORAGE (PHILIPPINES)

There is an increasing demand for root crops in lowland areas of the Philippines as a supplement to rice, but, due largely to storage problems, root crop production has remained at a subsistence level and is usually consumed near the production area. The purpose of this project is to develop storage technologies that will reduce post-production losses of cassava and sweet potato at farm and village level in the Philippines. Researchers will conduct a survey in a major root crop-producing area; evaluate and develop improved methods for farm and village level storage of cassava and sweet potato; field test the more promising storage methods; and train farmers and extension workers in the construction and use of the accepted storage methods.

/ROOT CROPS/ - /STORAGE/ /CASSAVA/ /SWEET POTATOES/
$162100   36 months
-VISAYAS STATE COLLEGE OF AGRICULTURE (VISCA), PASAY CITY, PH

81-0132 (AFNS)
PASTURE LEGUMES (BELIZE) - PHASE III

Phases I and II of this project identified grasses and native forage legumes with potential in the region and developed pasture management techniques in order to increase beef and dairy production in Belize and in the Caribbean generally. The objectives of phase III are to continue with the identification of forage legumes and grasses adaptable to the black soils of Belize and to continue to assess the productivity of promising forage species under grazing on the Pine Ridge soils. Researchers will develop an efficient seed production capability at the Central Farm in Belize in support of the pasture research program.

/FORAGE CROPS/ - /LEGUMINOSAE/ /LAND USE/ /GRASSES/
$270700   36 months
-MINISTRY OF NATURAL RESOURCES, BELMOPAN, BZ

81-0133 (AFNS)
TROPICAL PASTURES NETWORK (COLOMBIA) - PHASE I

Research to improve animal production in Latin America is hampered by a lack of knowledge of available pasture species and their performance in different environments. This project is the first in a series in which the International Centre for Tropical Agriculture (CIAT) and IDRC will collaborate to improve livestock production in Latin America by increasing the availability of germ plasm to national research programs for the development of improved species in grazed pastures. The project will strengthen the capacity of the national research programs to conduct grazing trials and increase their participation in the setting of research priorities and the development of methodologies for pasture evaluation.

/FORAGE CROPS/ - /GENETIC IMPROVEMENT/ /GRASSES/ /LAND USE/ /GRAZING/
$354400   24 months
-CENTRO INTERNACIONAL DE AGRICULTURA TROPICAL (CIAT), CALI, CO

81-0134 (AFNS)
SUMMER FORAGE (EGYPT) - PHASE II

The virtual absence of green fodder leads to a severe shortfall in summer feed supplies for farm animals in the Near East. Phase I of this project established the importance of summer forages for animal production in Egypt. Research efforts in phase I concentrated on obtaining information about the agronomic and animal nutritional performance of Elephant grass. Researchers made excellent progress in establishing the value of Elephant grass as a summer forage crop. The second phase of this project will compare the agronomic and economic performance of Elephant grass with other forage crops. Specifically, researchers will compare the recommended Elephant grass and forage sorghum varieties with the existing forage, maize.

/FORAGE CROPS/ - /CULTIVATION PRACTICES/ /ANIMAL NUTRITION/ /FEED/
$287700   36 months
-MINISTRY OF AGRICULTURE, CAIRO, EG

81-0135 (AFNS)
RATTAN (THAILAND)

Rattans are economically important as the source of cane for furniture manufacturing and for a vast range of local uses. The rapid rate of depletion of known useful rattan species poses a serious threat to the employment and income of many Asians. The purpose of this project is to increase the production and the utilization of rattan by establishing artificial plantations of the most valuable species that have good economic potential. Researchers will complete the survey and collection of the most useful rattan species of Thailand; determine the functional properties of presently unused species that have good commercial potential; and investigate the silvicultural requirements of the most promising species by which to establish plantations.

/PALMS/ - /SILVICULTURE/
$134200   36 months
-KASETSART UNIVERSITY, BANGKOK, TH

81-0136 (SS)
TECHNOLOGY AND EMPLOYMENT (CHILE)

This project will analyze a growing problem for developing countries, the impact of technology on employment. Specifically the project will examine the impact of technology on the manufacturing and service sector of the Chilean economy and the consequences for employment, training, and education of its work force. Researchers will analyze the composition of the labour force by education, skill level and employment; examine the role of technology in setting skill levels and how the educational system and training institutions can best respond to rapid employment shifts in the manufacturing and service sectors; and assess the social costs and advantages of technical change in these sectors.

/TECHNOLOGICAL CHANGE/ - /EMPLOYMENT OPPORTUNITIES/ /OCCUPATIONAL QUALIFICATION/
$71200   12 months
-CENTRO DE ESTUDIOS SOCIALES (CES), SANTIAGO, CL

81-0137 (SS)
TECHNICAL CHANGE IN THE DAIRY SECTOR (URUGUAY)

In Uruguay, there has been a slow shift from older to newer techniques in the dairy sector. The adoption of new techniques has accounted for the rapid growth in milk production and the development of a dairy products industry in specific locations. The objective of this project is to review the influence of technical change on the dairy industry, in the zone of Montevideo, with special reference to the small farmer. Specifically, the study will describe and analyze the structure of the dairy sector, and the techniques currently applied to dairy herds; and explore the diffusion and adoption of new techniques and their impact on the small farmer.

/DAIRY INDUSTRY/ - /TECHNOLOGICAL CHANGE/
$48000 10 months
-CENTRO DE INVESTIGACIONES ECONOMICAS (CINVE), MONTEVIDEO, UY

81-0139 (SS)
URBAN FOOD MARKETS (BANGKOK)

Bangkok, the capital of Thailand, is one of the fastest growing cities in Asia. Greater Bangkok is served by 218 retail food markets, 203 of which are managed by private owners; another 15 are run by the Bangkok municipal government. The general objective of this project is to gain a deeper understanding of the practical operation of the system of food markets in Greater Bangkok, with particular reference to the extent the poor are being served and the ways in which the system can be improved for better service. Researchers will provide an historical overview; describe the economics of food markets; analyze the range of government controls; study the location of food markets; and formulate policy recommendations.

/MARKETING/ - /FOOD SUPPLY/ /CONSUMER BEHAVIOUR/ /DISTRIBUTION/
$63700 18 months
-THAI UNIVERSITY RESEARCH ASSOCIATION (TURA), BANGKOK, TH

81-0140 (SS)
AGRICULTURAL RESEARCH: ORGANIZATION AND PERFORMANCE (LATIN AMERICA)

An important development goal for most countries is to improve agricultural productivity. The ability of the national agricultural research systems to deliver new technologies at the farm level is a critical element in efforts to increase agricultural output. The objective of this project is to describe and analyze the performance of national agricultural research systems in Argentina and Brazil, in order to identify their contribution to the generation and diffusion of agricultural technology, particularly cereals. The project will also examine the influence of international research institutions and the growth in the private ownership of agricultural technologies on the national research systems.

/AGRICULTURAL RESEARCH/ - /ORGANIZATION OF RESEARCH/ /TECHNOLOGICAL CHANGE/ /TECHNOLOGY TRANSFER/ /SEEDS/
$200000 18 months
-INTERNATIONAL SERVICE FOR NATIONAL AGRICULTURAL RESEARCH (ISNAR), THE HAGUE, NL

81-0141 (AFNS)
FARMING SYSTEMS (MALI) - PHASE II

Mali is one of the poorest countries in the world. Farming systems research has played an important role in improving basic agricultural productivity in the country. Phase I of this project was mainly concerned with collecting baseline data from several communities, training staff in farming systems research methodology, and in establishing specific experiments. The objectives of Phase II are to design and conduct research to increase food production in the villages of Southern Mali; to increase cotton, groundnut, and maize production through improved cultural techniques; to improve the management of animal herds; and to develop and test improved water management, soil conservation and soil fertility technologies.

/CULTIVATION SYSTEMS/ - /CULTIVATION PRACTICES/ /ANIMAL HUSBANDRY/ /WATER MANAGEMENT/ /SOIL CONSERVATION/ /SOIL FERTILITY/
$369300   24 months
-MALI. MINISTERE DES AFFAIRES EXTERIEURES ET DE COOPERATION INTERNATIONALE, BAMAKO, ML

81-0142 (SS)
EDUCATION AND SOCIETY RESEARCH PROGRAM (ARGENTINA)

Argentina has suffered a decline in its capacity to conduct social science research particularly, in the field of education. Accordingly the Latin American Faculty of Social Sciences (FLACSO), a leading Latin American institution, has concluded that there is a need to develop a research and training program to examine more critically the relationship between education and society. This project will permit FLACSO to create such a program. Specifically this project will conduct state-of-the-art reviews on the education-society relationship; and implement a specific training program within the Master's Program in Social Sciences offered by FLACSO.

/social research/ - /EDUCATION/
$96200   12 months
-FACULTAD LATINOAMERICANA DE CIENCIAS SOCIALES (FLACSO), BUENOS AIRES, AR

81-0143 (HS)
CONTRACEPTIVE DEVELOPMENT (GLOBAL)

This project will enable the International Committee for Contraceptive Research (ICCR) to continue activities in contraceptive development. Specifically, the ICCR will continue research on implants, contraceptive rings, barrier methods, luteinizing hormone-releasing hormone (LHRH) analogs, and steroid-releasing and copper IUDs in order to develop acceptable, safe, and effective methods of contraception. ICCR will undertake probing studies to identify potential new leads and once these are identified, undertake necessary investigations.

/CONTRACEPTIVES/ - /RESEARCH AND DEVELOPMENT/
$1815000   36 months
-POPULATION COUNCIL, NEW YORK, US

81-0145 (HS)
TUBERCULOSIS (INDIA)

Tuberculosis continues to be a major public health problem in developing countries. Two percent of India's total population of 650 million suffers from this disease. The overall objective of this project is to evaluate short-term intermittent chemotherapy in the management of pulmonary tuberculosis in India. Specifically the objectives are to test the efficacy of various short-term, intermittent drug regimens; assess patient acceptability and compliance for the various regimens in urban and rural populations; and study the possibility of eliminating streptomycin from these regimens.

/TUBERCULOSIS/ - /DRUGS/ /DISEASE CONTROL/
$200000 48 months
-T.B. DEMONSTRATION TRAINING CENTRE AND CHEST INSTITUTE, UTTAR PRADESH, IN

81-0146 (SS)
AGRICULTURAL DEVELOPMENT POLICY (INDONESIA)

Indonesia's agricultural sector is an important source of production, employment, and livelihood for rural people, and for the generation of foreign exchange. Accordingly, agricultural development policy is a critical component of national development planning. In Indonesia planning and plan implementation proceed within a framework of Five Year Development Plans. Economic growth has been the overriding objective and policy issue for the current planning period. The objective of this project is to develop a set of strategies for formulation of future agricultural development policies and to improve public sector research on agricultural development planning.

/AGRICULTURAL PLANNING/ - /AGRICULTURAL POLICY/
$177000 30 months
-MINISTRY OF AGRICULTURE, JAKARTA, ID

81-0148 (SS)
RURAL RADIO PROGRAMS (PERU)

In Peru, radio communications are very important for the isolated rural villages and individuals. However, radio stations tend to be the monopoly of private firms dominated by the profit motive and with limited concern for the maintenance of the native culture. The usefulness of radio programs for rural populations is therefore limited. An alternative radio program provided by the Peruvian Centre for Social Studies (CEPES) is designed with the participation of peasant and community groups in order to address issues and problems facing rural areas. This project will describe the range of radio programing aimed at rural populations in Peru and evaluate the impact of this programing. Researchers will evaluate the experience of alternative radio programs produced by CEPES.

/RADIO/ - /RURAL POPULATION/
$28500 7 months
-CENTRO PERUANO DE ESTUDIOS SOCIALES (CEPES), LIMA, PE

81-0149 (IS)
INTERNATIONAL DIARRHOEAL DISEASE INFORMATION SERVICE AND DOCUMENTATION CENTRE (DISC)

Diarrhoeal diseases continue to be a major cause of death in infancy in developing countries. This project will bridge the information gap that exists in the field of diarrhoeal diseases, by enabling the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) to establish an International Diarrhoeal Disease Information Service and Documentation Centre (DISC). DISC will collect, organize and disseminate information on diarrhoeal diseases, concentrating its efforts within Asia. Some specific objectives of the project are to: manage a question-and-answer service; initiate an expanded newsletter and publication of the Journal of Diarrhoeal Disease Research; produce bibliographies and a "Who's Who" of Asian scientists in diarrhoeal disease; and develop a subject heading list.

/INFORMATION SERVICES/ - /INFECTIOUS DISEASES/
$462480   36 months
-INTERNATIONAL CENTRE FOR DIARRHOEAL DISEASES RESEARCH (ICDDRB), DACCA, BD

81-0150 (HS)
IMPLANTS (INDIA)

The development of new or improved contraceptive methods and delivery systems is a continuing priority for family planning programs in developing countries. The International Committee for Contraceptive Research (ICCR) has completed clinical assessment of the hormonal silastic implant (Norplant), which is ready for introduction into family planning programs. The objective of this project is to evaluate Norplant in India with regard to acceptability of the delivery system; effectiveness against pregnancy; side effects, especially related to menstrual patterns; and possible problems arising from removal of the implants.

/CONTRACEPTIVES/
$8250   12 months
-POPULATION COUNCIL, NEW YORK, US

81-0151 (SS)
URBAN WASTE MANAGEMENT (KOREA)

The rapidly industrializing country of Korea, which has over the last two decades witnessed remarkable progress in economic growth and urban development, is beginning to face the problem of urban waste management. The present system of urban waste management is highly inefficient, for example, 70 to 80 percent of the whole city budget in Seoul was spent on waste collection and disposal in the period 1978-79. This project will review and analyze the urban waste management system in the five largest cities in Korea (Seoul, Pusan, Taegu, Kwanju and Taijeon). Researchers will identify and analyze the extent of, and reasons for, the inefficiency in current urban waste management; and develop policy options designed to minimize or eliminate the sources of this inefficiency.

/WASTE MANAGEMENT/ - /policy making/
$73500   12 months
-SEOUL NATIONAL UNIVERSITY, SEOUL, KR

81-0153 (SS)
SOCIAL AWARENESS AND RURAL DEVELOPMENT (COLOMBIA) - PHASE I

The Atlantic Coast provinces of Colombia have a strong cultural tradition and represent an important food producing region for the Colombian economy. In recent years the San Jorge river basin of Colombia's Atlantic coast has seen an unprecedented process of land occupation by peasants, often resulting in conflict between small-holders and the capital-intensive producers of the area. Efforts are being made to ensure that peasants receive an equitable share of the growing wealth of the area. It is the intention of this project to write and/or revise local histories in the hope of hastening rural development and change by revealing the true history of peasant communities. Researchers will analyze the history of land-use and resource exploitation; analyze the relations between large landowners and peasants; and describe the development of peasant organizations.

/PEASANTS/ - /LAND USE/ /HISTORY/ /PEASANT MOVEMENTS/
$32000 18 months
-FUNDACION PUNTA DE LANZA, BOGOTA, CO

81-0154 (AFNS)
BAMBOO (THAILAND)

Bamboo is an important natural resource of Thailand. Rural people make extensive use of bamboo culms for building materials and for the manufacture of farm implements and household utensils; and bamboo shoots are an important daily food for Thai people. The long-term objective of this project is to increase the overall production of bamboo in Thailand by introducing new species and by improving silvicultural management methods for natural bamboo stands and man-made plantations. Specifically, the project will establish living collections of all native bamboo species; develop appropriate techniques for the collection, processing and storage of bamboo seeds; develop effective silvicultural methods for natural bamboo stands and bamboo plantations; and intensify the use of local species for the production of edible shoots on private farms.

/BAMBOO/ - /SILVICULTURE/ /CULTIVATION PRACTICES/
$192300 36 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), SINGAPORE, SG
-MINISTRY OF AGRICULTURE AND COOPERATIVES, BANGKOK, TH
-KASETSART UNIVERSITY, BANGKOK, TH

81-0155 (SS)
RICE ECONOMY (ZAIRE)

Zaire produces sufficient maize, cassava, and plantain for national consumption but is not able to produce enough rice. A marketing network does exist and there is a strong potential for increased rice production and distribution. This project consists of a cost route survey of local rice farmers in order to obtain more information about rice cultivation in Zaire and to draw up a more adequate agricultural policy. This type of survey involves weekly interviews with farmers during the growing season to determine their resource utilization, means of production, costs and prices.

/RICE/ - /AGRICULTURAL POLICY/
$46400 24 months
-INSTITUT FACULTAIRE DES SCIENCES AGRONOMIQUES, YANGAMBI, ZR

81-0156 (SS)
RAILWAY IMPACT (MOROCCO)

The Ounein region of Morocco is situated in the Upper Atlas Mountains south of Marrakech. It is an isolated region cut off from the rest of the country for five months of the year when the roads are impassable. The government is building a major railroad, which will pass through these mountains and should be completed by 1988. The impact of this new line of communication and transportation will be felt at all levels in this area. IDRC will support a project that will begin a long series of investigations into the effect of the railroad on the socioeconomic conditions and on the ecology of the Ounein.

/RAILWAYS/ - /ENVIRONMENTAL EFFECTS/ /SOCIAL IMPLICATIONS/ /ECONOMIC IMPLICATIONS/
$46000 36 months
-INSTITUT AGRONOMIQUE ET VETERINAIRE HASSAN II, RABAT, MA

81-0157 (IS)
DOCPAL PARTICIPATING CENTRE (BRAZIL)

The Latin American Population Documentation System (DOCPAL), operated by the Latin American Demographic Centre (CELADE), Santiago, Chile, collects population literature from or about Latin America. The file of citations and abstracts is compiled on a large computer using the Integrated Set of Information Systems (ISIS) bibliographic software. The objective of this project is to enable the state of Sao Paulo, Brazil, to obtain the DOCPAL methodology and the Integrated Set of Information Systems (ISIS) software in order to develop its population documentation system and to be a model for other information activities in the field of social and economic development. In-service training will be provided on DOCPAL procedures and methodology at CELADE, and technical assistance will be obtained from DOCPAL in adapting its methods to Brazilian conditions and in developing special Integrated Set of Information Systems (ISIS) applications.

/INFORMATION SYSTEMS/ - /POPULATION/ /ISIS/ /INFORMATION SERVICES/
$53030 24 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), BOGOTA, CO

81-0158 (SS)
PERINATAL AND MATERNAL MORTALITY (ZAIRE)

Maternal and child mortality is still widespread in Zaire, but demographic statistics on mortality are incomplete. This study will examine the effect of socioeconomic conditions on the outcome of pregnancy. Data will be collected on congenital deformities and will correlate socioeconomic status with the birthweight, size and survival of the newborn. The survey of 5,000 cases will take place at four maternity hospitals in Kinshasa and it is estimated that of those, 1,000 babies will not survive. The results of the survey may serve as a guide to health workers in determining which families are high-risk, and hopefully will encourage the collection of more accurate vital statistics.

/MATERNAL AND CHILD HEALTH/ - /MORTALITY/
$23500 36 months
-CENTRE D'ETUDES POUR L'ACTION SOCIALE (CEPAS), KINSHASA, ZR

81-0160 (FAD)
ROYAL SOCIETY OF CANADA/INTERNATIONAL FOUNDATION FOR SCIENCE (1982)

The International Foundation for Science (IFS) is a nongovernmental organization that distributes research grants to young scientists from developing countries. The objective of this project is to contribute to the IFS grant fund to assist young Third World scientists to engage in scientific research of high quality relevant to their countries. A small grant to the Royal Society of Canada will enable the society to continue participating actively in, and to have an influence on, the activities of the IFS.

/SCIENTIFIC COOPERATION/ - /TRAINING ASSISTANCE/
$250000 12 months
-ROYAL SOCIETY OF CANADA, OTTAWA, ONTARIO, CA

81-0161 (SS)
URBAN LAND AND HOUSING (ECUADOR)

In Quito, Ecuador, the cost of land has increased dramatically in the last two decades as a result of rapid urbanization, rising standards of living, and the limited supply of land due to topographical conditions. Consequently, the provision of land and housing for the urban poor has been very deficient. This project will analyze the ways in which the urban land market has influenced the location and provision of housing for low-income sectors of the Quito population, and formulate policy recommendations aimed at improving the provision of land for the urban poor. Researchers will identify and describe the role of both state and private agents participating in the purchase and sale of urban land to the urban poor.

/HOUSING/ - /LOW INCOME/ /HOUSING NEEDS/ /URBAN PLANNING/
$37000 10 months
-CENTRO DE INVESTIGACIONES CIUDAD, QUITO, EC

81-0162 (AFNS)
FARMING SYSTEMS AND PHOSPHATE ROCK (IFDC/CIAT) - PHASE I

The beneficial effects of local phosphate rock on crops grown on phosphorus deficient soils in Latin America have been demonstrated. Phosphate rocks can be sold to farmers at relatively economical prices, compared with the generally imported commercial super phosphates. This project will concentrate on determining the agronomic and socioeconomic consequences of introducing low cost phosphate rock products of local origin into small farm agricultural systems. Specifically, the project will determine the relative agronomic efficiency of alternative phosphorus sources and evaluate related economic advantages; and conduct a macroeconomic study of the phosphate fertilizer industry in Colombia.

/FERTILIZERS/ - /CULTIVATION SYSTEMS/ /FARM SIZE/ /FERTILIZER INDUSTRY/
$394200 24 months
-INTERNATIONAL FERTILIZER DEVELOPMENT CENTER (IFDC), ALABAMA, US

81-0163 (SS)
FERTILITY AND FAMILY STRUCTURE (BANGLADESH)

Bangladesh has one of the highest rates of population growth in the world in spite of continued efforts to reduce fertility. A central problem seems to be the lack of information concerning motivation for fertility planning and contraceptive use among Bangladesh families. This project will explore one of the dimensions that bears upon this motivation, namely family structure and roles of family members in influencing the decision-making of young couples. Researchers will examine the demographic characteristics of the family; study the norms governing the formation, development and underlying structure of the family; and study the influence of family obligations on the reproductive decisions of individual couples.

/FERTILITY/ - /FAMILY/ /FAMILY PLANNING/
$36500 18 months
-RAJSHAHI UNIVERSITY, RAJSHAHI, BD

81-0164 (SS)
AGRICULTURAL COLONIZATION (ECUADOR)

Agricultural colonizationn in South American countries bordering the Amazon basin is increasingly viewed as an important strategy for population redistribution, for relieving both areas of high population pressure and inequities in land ownership, and for increasing agricultural production. The objective of this project is to analyze colonizationn policies and programs in relation to demographic and socioeconomic development in Ecuador. Researchers will evaluate the mechanisms for implementing colonization policies; assess the effect of both spontaneous and government-sponsored colonizationn on population redistribution; and identify the demographic, economic, social and cultural impacts of colonizationn in selected areas.

/LAND SETTLEMENT/ - /POPULATION DYNAMICS/
$88000 18 months
-CENTRO DE INVESTIGACIONES Y ESTUDIOS SOCIO-ECONOMICOS (CIESE), QUITO, EC

81-0165 (SS)
LOW-COST HOUSING (IVORY COAST)

The population of Abidjan, Ivory Coast, has gone from 400,000 in 1968 to over 1,500,000 in 1981. This tremendous influx of people from the countryside has created an acute housing problem, which the government has attempted to solve by constructing low-cost housing. This project will survey the current housing situation in Abidjan, and will pay particular attention to the type of construction, building costs, socioeconomic characteristics and tenant satisfaction.

/HOUSING/ - /LOW INCOME/ /HOUSING POLICY/
$17500 18 months
-CENTRE DE RECHERCHES ARCHITECTURALES ET URBAINES (CRAU), ABIDJAN, CI

81-0166 (SS)
SCHOOLING AND THE FORMATION OF ADOLESCENT VALUES (MOROCCO)

Schools perform as diffused and yet strong agents of socialization. In addition to the transmission of cognitive skills, schools convey to students an indeterminate number of attitudes and values. This project will examine the types of values transmitted by schooling in Morocco and the extent to which these are conducive to the emergence of an egalitarian and modern society. Researchers will elaborate a profile of values and attitudes held by Moroccan adolescents toward key political, sociocultural, and economic aspects of society; examine the role that school experience and the curriculum content play in the development of values; describe the occupational preferences manifested by youths; and examine the relationship between value patterns and occupational preferences.

/YOUTH/ - /ATTITUDES/ /SCHOOLING/
$34000   36 months
-ECOLE NORMALE SUPERIEURE, RABAT, MA

81-0167 (SS)
EDUCATION AND WORK IN URBAN AREAS (PERU)

Governments have been aiming for equal educational opportunities in the belief that education leads to jobs, and that there is a strong association between level of education and income. This project will examine the transition between education and work for the young labour force in Peru, considering not only economic but also social effects associated with education, such as migration, occupational mobility, and social mobility. The importance of social factors upon the individual's educational history and attainment will be assessed, and likewise the importance of social and educational factors on the individual's occupational history and current occupation will be analyzed.

/OCCUPATIONAL MOBILITY/ - /EDUCATIONAL OPPORTUNITIES/ /INCOME/ /SOCIAL MOBILITY/ /LEVELS OF EDUCATION/
$75000   21 months
-INSTITUTO NACIONAL DE INVESTIGACION Y DESARROLLO DE LA EDUCACION (INIDE), LIMA, PE

81-0168 (SS)
CHILD-TO-CHILD TRAINING PROGRAM (COLOMBIA)

Researchers are concerning themselves with the role of older siblings in caring for younger siblings, as mothers are often obliged to work laboriously in domestic tasks or outside the home, thereby leaving the care of young children to the older siblings. This project will study the impact of training older siblings in the care of the younger child. Researchers will design and evaluate an intervention program in Colombia focused on the role of older siblings as agents in the physical and cognitive development of their younger brothers and sisters.

/CHILD REARING/ - /CHILD CARE/ /CHILD DEVELOPMENT/ /FAMILY/ /TRAINING PROGRAMMES/
$96000   24 months
-FUNDACION PARA LA EDUCACION PERMANENTE EN COLOMBIA/CENTRO PARA EL DESARROLLO DE LA EDUCACION NO FORMAL (FEPEC/CEDEN), BOGOTA, CO

81-0169 (AFNS)
CROPPING SYSTEMS (THAILAND) - PHASE III

Thailand has a population of 47 million: 30 million of these people are in families engaged in growing rice. This group of families has one of the lowest per capita incomes in Thailand. The long term objective of this project has been to increase the poorer rice farmers' well-being through increasing crop production. As a result of this project, farmers are starting to plant two crops per year rather than the traditional single rice crop, and the technology generated by the project is being extended to other programs such as those supported by the World Bank, USAID and UNDP-FAO. Phase III of this project is the transition from an outside funded project to a major research component in the Thai Government's agricultural research program. Phase III will insure that the ongoing field research program continues and the current staff remain in the field until the newly organized Farming Systems Research Institute can assume responsibility.

/RICE/ - /CULTIVATION SYSTEMS/ /FARM SIZE/
$168400   36 months
-MINISTRY OF AGRICULTURE AND COOPERATIVES, BANGKOK, TH

81-0170 (AFNS)
CAGECULTURE (SRI LANKA) - PHASE II

Fisheries is of considerable importance in Sri Lanka, where a predominant source of animal protein is fish. Cage culture (breeding fish in large underwater cages as opposed to breeding them in ponds) could increase fish production in Sri Lanka. The overall objective of this project is to increase the production of inland fish in Sri Lanka. Specifically the project will develop a suitable cage system; determine the economic feasibility of selected cage systems and constraints to their adoption; provide training; conduct preliminary surveys on productivity of lagoons and inland tanks and test the feasibility of pen culture in selected areas; and develop a system of extension of the suggested technology for rural farmers and fishermen.

/INLAND FISHING/ - /AQUACULTURE/
$238300   36 months
-MINISTRY OF FISHERIES, COLOMBO, LK

81-0171 (AFNS)
MILKFISH (SEAFDEC) - PHASE III

Milkfish cultivation offers a great potential as a food fish for the millions of people facing animal protein shortages. In the Philippines, milkfish dominates the aquaculture industry of the country. This project began with the purpose of inducing milkfish to spawn and breed in captivity. Phase I concentrated on all factors concerned with breeding milkfish and the objectives of phase II were to ensure an adequate and reliable supply of milkfish fry and to develop economical and nutritious feeds. In phase III, research will be conducted in the following areas: milkfish fry production; nutrition and feed requirements; milkfish fisheries and ecology; milkfish pond culture and management; milkfish pathology; and milkfish aquaculture economics. Training and extension activities will also take place in phase III.

/FISH BREEDING/ - /FISH CULTURE/ /FEED/
$458600   36 months
-SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTRE (SEAFDEC), BANGKOK, TH

81-0172 (SS)
SOCIAL ACCOUNTING MATRIX (SWAZILAND)

The Social Accounting Matrix (SAM) is one of the more useful tools of economic research. The matrix can be used for policy analysis and economic planning, and offers an efficient means of summarizing complex economic relationships and identifying gaps in statistical information. This project supports the construction of a SAM for Swaziland. Researchers will exploit material used in the construction of the matrix and the matrix itself for teaching purposes; and apply the SAM to the analysis of policy choices, particularly those relating to the attainment of a higher employment rate, a more equitable distribution of income, and greater national self-reliance.

/NATIONAL ACCOUNTING/ - /NATIONAL PLANNING/
$47000 24 months
-UNIVERSITY COLLEGE OF SWAZILAND, LUYENGO, SZ

81-0173 (SS)
STUDENT ACHIEVEMENT IN MATHEMATICS (DOMINICAN REPUBLIC) - PHASE I

One of the most important factors that hampers development in Third World countries is the lack of scientific knowledge and technological information suited to their own realities. One of the main reasons for the limited number of individuals interested and competent in science and technology lies in the poor teaching of mathematics. This project will assess the teaching and learning of mathematics at the high school level in the Dominican Republic. Researchers will analyze curriculum content; describe the type of instruction given; measure student achievement in mathematics and student attitudes toward courses and careers related to mathematics; and determine the relationship between student achievement and attitudes in mathematics, and social, economic, and pedagogical factors.

/MATHEMATICS/ - /CURRICULUM/ /SECONDARY EDUCATION/ /TEACHING METHODS/
$67000 12 months
-UNIVERSIDAD CATOLICA MADRE Y MAESTRA, SANTIAGO DE LOS CABALLEROS, DO

81-0174 (AFNS)
PLANTAIN CROPPING SYSTEMS (CATIE - CENTRAL AMERICA) - PHASE I

Root crops and plantains are the major food sources in the lowland humid tropics of Central America, but from a research and extension standpoint, they have been traditionally neglected. This project is the first comprehensive attempt to study and improve cropping systems based in roots and plantains in Central America. Researchers will describe the cropping systems used at present for the production of yam, taro, cocoyam, plantain, and sweet potato; design, test and develop systems of production; evaluate the agronomic potential of yam and cocoyam entries in the collection of the CATIE Genetic Resources Unit and of sweet potatoes in the collection at the University of Costa Rica; and evaluate and expand the present small collection of plantains at CATIE.

/ROOT CROPS/ - /CULTIVATION SYSTEMS/ /GENETIC IMPROVEMENT/
$197000 36 months
-CENTRO AGRONOMICO TROPICAL DE INVESTIGACION Y ENSENANZA (CATIE),
TURRIALBA, CR

81-0175 (AFNS)
ROOT CROPS (LIBERIA)

In the past, virtually no attention was given to research on the improvement of non-rice crops in Liberia. However, with the difficult economics of producing and importing rice, root and tuber crops will increase in value. The main objective of this project is to increase the quantity and improve the quality of root and tuber crops in Liberia. Specifically the project wil identify and utilize principal sources of disease and pest resistance of cassava, sweet potato, cocoyam and yam, and incorporate these resistances into cultivars with high yield potential; develop and produce varieties of these crops that are adaptable to a wide range of environmental conditions; test improved varieties for acceptability both agronomically and in local root crop dishes; and provide training.

/ROOT CROPS/ - /GENETIC IMPROVEMENT/
$192200 36 months
-MINISTRY OF AGRICULTURE, MONROVIA, LR

81-0176 (HS)
RESPIRATORY DISEASES IN CHILDREN (INDIA)

Acute respiratory infections are a leading cause of morbidity and mortality in children in India. Overcrowding and poor sanitation ae often major contributing factors in the spread of such diseases. The objectives of this project are to provide a detailed clinical description of acute respiratory infections in young children, with an examination of the cause and outcome of the illness in relation to personal, social and environmental risk factors; determine the relative frequency of different microorganisms in relation to specific clinical respiratory syndromes; and develop and maintain a programme for monitoring pathogenic microorganisms and their antibiotic sensitivities.

/INFECTIOUS DISEASES/ - /RESPIRATORY SYSTEM/ /DISEASE CONTROL/ /CHILDREN/
$175700 36 months
-KING GEORGE MEDICAL COLLEGE, LUCKNOW, IN

81-0177 (AFNS)
AFRICANIZED BEES (COLOMBIA)

The arrival in Latin America of bees from Africa is a well publicized fact. The spread of africanized bees in Brazil led 80 percent of unskilled beekeepers and 20 percent of professional beekeepers to abandon their trade. Honey production declined because of excessive swarming of bees and competition between managed and feral colonies. The aggressive foraging and nest defence behaviour of the africanized bee still needs to be harnessed. A better understanding of the factors influencing defence behaviour can lead to management practices and hive designs that will exploit the more aggressive harvesting habit of the africanized bee for increased honey production. Such management techniques have been successfully developed in Africa and they can provide a point of departure for Colombian researchers. This project will identify beekeeping techniques suitable for the management of africanized bees on small farms in Colombia.

/APICULTURE/ - /HONEY/
$225000 36 months
-UNIVERSIDAD NACIONAL DE COLOMBIA, MEDELLIN, CO

81-0178 (IS)
DEVSIS (GUINEA) - INITIAL PHASE

The area of documentation in the People's Revolutionary Republic of Guinea has been neglected: there is a lack of managers and no means of collecting and disseminating national information. The goal of this project is to help improve documentary infrastructures in Guinea through training and the establishment of a national documentation and information system. The specific objectives of the project are to train upper and middle level staff in information sciences; set up the national coordination centre as a national affiliate of the Pan-African Documentation and Information System; and publish two experimental issues of Devindex Guinée.

/DEVSIS/ - /INFORMATION SERVICES/
$246000 24 months
-INSTITUT CENTRAL DE COORDINATION DE LA RECHERCHE ET DE LA DOCUMENTATION DE GUINEE, CONAKRY, GN

81-0180 (HS)
ORAL REHYDRATION (SOUTHEAST ASIA) - PHASE II

Dehydration and electrolyte imbalance are the main contributing factors to the high mortality rates in young children and infants suffering from infectious diarrhea. The early and adequate administration of oral rehydration has proven effective in preventing and treating dehydration. The overall objectives of this project are to promote the safe and effective use of oral rehydration salts (ORS) through the development of educational support materials; and test a modified oral rehydration mixture. Specifically in Phase II the project will evaluate the informational and instructional pamphlets and packages developed in Phase I following their wide-scale introduction in Indonesia, the Philippines and Thailand; and develop instructional and informational materials for physicians and paramedical personnel.

/INFECTIOUS DISEASES/ - /HEALTH EDUCATION/ /TEACHING AIDS/ /PACKAGING/
$260300 15 months
-PROGRAM FOR THE INTRODUCTION AND ADAPTATION OF CONTRACEPTIVE TECHNOLOGY (PIACT), SEATTLE, US

81-0181 (HS)
WATER PROJECT TRAINING (INDONESIA)

In Indonesia the number of trained government personnel available for handling rural water supply problems is grossly inadequate; and many of the community and nongovernmental organizations (NGO's) which work effectively at the grassroots level do not have the expertise to solve this problem. The overall objective of this project is to develop an appropriate syllabus, curriculum and training manual designed to aid NGO's in solving local water problems and train personnel in the handling of various water supply technologies applicable to rural communities in Indonesia.

/WATER SUPPLY/ - /TRAINING/ /CURRICULUM/
$128000 18 months
-YAYASAN DIAN-DESA, YOGYAKARTA, ID

81-0182 (AFNS)
RATTAN (PHILIPPINES)

Rattan is a very important non-timber resource in the Philippines. It provides the raw material for an important industry and trade, which produces most of the country's furniture for local use in addition to a significant export. Current demands for Philippine-made rattan products both in the local and foreign markets exceed the available supply. The long term objective of this project is to increase the supply of rattan by establishing plantations of the most valuable known species and by finding uses for presently unexploited species. The project will develop survey methods to be used in the formulation of an inventory of rattan species in the natural forests; establish a living collection of all Philippine rattan species; develop vegetative propagation methods for commercial rattan species; determine the properties and end-uses of unexploited species; and improve the grading standards and design of processing equipment.

/PALMS/ - /SILVICULTURE/ /WOOD PRODUCTION/ /WOOD PROCESSING/ /ENGINEERING DESIGN/
$158190 36 months
-PHILIPPINE COUNCIL FOR AGRICULTURE AND RESOURCES RESEARCH (PCARR), LOS BANOS, PH

81-0183 (AFNS)
RICE RESEARCH (WARDA) - PHASE III

The West African Rice Development Association (WARDA) was created to assist in making West Africa self-sufficient in rice production. Phases I and II of this project aimed at increasing rice production in the Senegal River region and similar agroclimatic regions. Phase III will continue and reinforce research activities undertaken in Phases I and II, and specifically: select and test rice varieties for high yield, resistance to disease, pests, tolerance of hot and cold temperatures, strong winds and salinity; determine the optimum management systems for the various soil types and farming systems; evaluate economic and agronomic practices; encourage the diffusion of improved rice varieties; and complete the training of rice scientists to staff this project fully in the future.

/RICE/ - /FOOD PRODUCTION/ /CROP YIELD/ /GENETIC IMPROVEMENT/ /PLANT BREEDING/ /CULTIVATION PRACTICES/ /CULTIVATION SYSTEMS/
$372300 24 months
-ASSOCIATION POUR LE DEVELOPPEMENT DE LA RIZICULTURE EN AFRIQUE DE L'OUEST (ADRAO), MONROVIA, LR

81-0184 (SS)
COLLABORATIVE RESEARCH IN SECONDARY EDUCATION (SIERRA LEONE) - PHASE I

A frequent criticism of much educational research is that it is divorced from the everyday reality of the classroom and the school. An alternative style of educational research is a collaborative one - where the researcher and the subjects of the research (teachers, pupils, administrators) share equally in the research effort. The objectives of this project reflect the research goals of the Centre for Research into the Education of Secondary Teachers (CREST): to increase the educational research capacity in Sierra Leone; to develop a more participatory research approach; and to bridge the gap between educational research and practice. These goals will be achieved through the implementation of twelve constituent research projects, each dealing with different aspects of educational efficiency, effectiveness, and relevance; and each focused within a small sample of secondary schools.

/EDUCATIONAL RESEARCH/ - /SECONDARY EDUCATION/ /TEACHER TRAINING/
$150000 24 months
-MILTON MARGAI TEACHERS COLLEGE, FREETOWN, SL

81-0185 (SS)

NATIONAL DEVELOPMENT BANKS AND TECHNOLOGICAL DEVELOPMENT (GLOBAL) - PHASE II

Although the relationship between investment and capital accumulation has been frequently studied in developing countries, there has been little research on the impact of financial institutions, particularly development banks, on the acquisition of technology. The objective of this project is to explore the relationship between investment and technology by examining the behaviour of national development banks. The specific objectives of this phase of the project are to study the role of financial institutions in the process of technological development in Brazil, Ivory Coast, India and S. Korea; evaluate the influence of development banks on the development of local technological capabilities, and the implications for science and technology policies; and suggest policy measures to improve the effectiveness of financial institutions as promoters of local technological development.

/DEVELOPMENT BANKS/ /TECHNOLOGICAL CHANGE/ /SCIENCE POLICY/
$379600 24 months 24
-CISEA, Buenos Aires, AR
-Fundacao Instituto de Pesquisas Economicas (FIPE), Sao Paulo, BR
-COLCIENCIAS, Bogota, CO
-Institute for Financial Management and Research, Madras, IN
-Kookmin University, Seoul, KR

81-0186 (SS)

SOCIOECONOMIC DETERMINANTS OF INFANT MORTALITY IN ROSARIO (ARGENTINA)

In spite of Argentina's relatively advanced level of development infant death rates remain surprisingly high. The general objective of this project is to provide information on levels of mortality and morbidity in the city of Rosario and the socioeconomic determinants of these levels. Specifically, researchers will identify mortality and morbidity (illness) rates of infants born to a cohort of Rosario women; determine variations in socioeconomic characteristics of the infants' families; assess variations in mortality and morbidity by socioeconomic characteristics; examine the type of care given by mothers to their infants and the influence of this care upon the survival and well-being of the infants; and test a methodology for follow-up of mothers and infants and to assess its validity and utility for wider application.

/INFANT MORTALITY/
$66000 24 months
-CENTRO DE ESTUDIOS SANITARIOS Y SOCIALES (CESS), ROSARIO, AR

81-0187 (SS SPA)

ENERGY RESEARCH GROUP (GLOBAL)

No comprehensive information or analysis exists that provides an overview of energy research funding, either by the donor agencies or by developing countries. The lack of knowledge on research activity in the energy sector is a pressing problem. The objective of this project is to establish an independent Energy Research Group whose functions will be to review and evaluate selected areas of energy-related research relevant to the situation of developing countries; indicate priority areas for further research; consider existing capacities, both national and international to finance, undertake, diffuse, and use energy-related research results; consider the means by which improved choices can be made in the allocation of resources available to energy research; and report their findings nationally and internationally through a variety of reports and symposia.

/ENERGY/ - /ORGANIZATION OF RESEARCH/
$1190700 36 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

81-0188 (SS)
MACROECONOMIC RESEARCH (KENYA)

The Kenyan government has embarked on an economic program of structural readjustment in the forthcoming Development Plan covering the period 1984 to 1988. Macroeconomic research is needed to help formulate Kenya's longer term economic strategies and to establish the economic framework for the next Development Plan. The objectives of this project are to study the structural readjustment of the Kenyan economy and to estimate the economic parameters of the 1984 to 1988 Development Plan; and to develop Kenyan research capacity in the field of macroeconomics.

/MACROECONOMICS/ - /ECONOMIC MODELS/ /ECONOMIC POLICY/ /ORGANIZATION OF RESEARCH/
$167200 24 months
-MINISTRY OF FINANCE AND PLANNING, NAIROBI, KE

81-0189 (SS)
THE COST OF CHILDREN (THAILAND)

Important inroads have been made in increasing understanding of the economic, social and psychological value of children, and the relationship between the value of children and fertility behaviour. This project will add to this growing literature by examining hypotheses on the economic costs of children in Northeast Thailand. Research will be divided into urban and rural households which will permit an analysis of the relationship between socioeconomic variables and the cost of children. Information will be gathered on the monetary investments made in children; the time input of mothers; and the extent to which child rearing activities interfere with their labour force employment.

/CHILDREN/ - /COSTS/ /COST-BENEFIT ANALYSIS/
$69000 18 months
-CHULALONGKORN UNIVERSITY, BANGKOK, TH

81-0190 (SS)
SOCIAL DEMOGRAPHIC RESEARCH FOR PLANNING (COLOMBIA)

There is a growing demand in Colombia for assessments of the implications of current population trends for sectoral and regional planning. However, the data sources and methodologies for undertaking such detailed assessments are either weakly developed or not available in a form suitable for use by planners. This project will support studies which are oriented to a single general objective, that of improving methodologies for incorporating demographic considerations in national, regional and municipal social and economic planning in Colombia. The project will update and improve estimates of levels and trends in fertility, mortality, internal migration and international migration; analyze the interrelationships between demographic and social-economic change; and analyze the impact of demographic trends on the emerging demand for social services, employment opportunity, housing, etc.

/POPULATION DYNAMICS/ - /PLANNING/
$210000 20 months
-CENTRO REGIONAL DE POBLACION (CCRP), BOGOTA, CO

81-0191 (AFNS)
SORGHUM MILLING (ETHIOPIA)

Injera, a leavened, round flat bread, is the undisputed national bread of Ethiopians. Nearly all the sorghum produced in Ethiopia is used for human consumption and of this 80 percent is processed into flour for injera making. It is known that if the grain is first dehulled, a better quality injera results. The general objective of this project is to place a mechanical milling system for sorghum with a selected Peasant Association in Ethiopia, operate the mill under local management for one year, and study the impact of the mill on the surrounding rural area. Specifically the project will optimize the technical performance of a dehuller and grinder; define and optimize the mill's management; and conduct studies on sorghum production and marketing, financial profitability of the mill, and rural consumer's acceptance of and demand for mechanically dehulled sorghum.

/SORGHUM/ - /GRAIN PROCESSING/ /MILLING INDUSTRY/
$163700 24 months
-ADDIS ABABA UNIVERSITY, ADDIS ABABA, ET

81-0193 (SS)
RURAL ENERGY SURVEY METHODOLOGICAL REVIEW (INDIA)

The last ten years have seen a considerable growth in the number of surveys of energy conversion and use by rural people in developing countries. The need to improve the research methods used in rural energy surveys is widely recognized; however, there is no authoritative review of the existing literature which focuses on the methodological aspects of rural energy surveys. The objective of this project is to fill this gap in relation to the English language literature. Specifically, the project will produce a monograph which contains an annotated bibliography of surveys of systems of energy conversion and use in rural areas of developing countries, descriptions and critical evaluations of the research methods used, and suggestions regarding methodological improvements in future rural energy surveys.

/ENERGY/ - /SURVEYS/ /RESEARCH METHODS/ /BIBLIOGRAPHY/
$32500 10 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

81-0194 (SS)
FISHERIES ECONOMICS RESEARCH PROGRAMME (MALAYSIA)

Small-scale fisheries provide an important component of the economies of Southeast Asian countries. A major problem for the formulation of small-scale fisheries development policies has been the limited social science research on fisheries. The objective of this project is to develop an institutional capacity to conduct a sustained program of social science research on small-scale fisheries that assists government policymakers and planners in Malaysia. Specifically, the project will develop, organize, and administer a research program in fisheries economics at Universiti Pertanian, Malaysia (UPM); and support curricula development for a fisheries economic specialization in the M.Sc. (resource economics) degree of the University.

/FISHERY ECONOMICS/ - /social research/ /CURRICULUM DEVELOPMENT/
$90000 15 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA
-AGRICULTURAL DEVELOPMENT COUNCIL (ADC), BANGKOK, TH
-UNIVERSITY PERTANIAN, SERDANG, MY

81-0195 (IS)
PADIS-DEVSIS - PHASE II

In phase I of this project, the first important steps were taken towards the realization of a Pan-African Development Information System (PADIS), which will improve the capabilities of African countries to handle information on socioeconomic development. The creation of a Central Coordinating Office, the development of an African socioeconomic development information data base, and the publication of the Devindex-Africa bibliography are the objectives realized in phase I. The primary objective of phase II is to provide assistance to member states (particularly in the area of training), who wish to participate in the PADIS network by contributing their own national information to the regional system. Phase II activities will consist of the development of an intensive training program; the printing of Devindex-Africa; and the holding of training courses and workshops.

/DEVSIS/ - /INFORMATION SYSTEMS/ /BIBLIOGRAPHY/
$468410   24 months
-UNITED NATIONS ECONOMIC COMMISSION FOR AFRICA (UN-ECA), ADDIS ABABA, ET

81-0196 (SS)
INFANT MORTALITY AND MORBIDITY (BANGLADESH)

One of the most pressing demographic problems in developing countries is the high level of infant and child mortality. Many Third World countries lack reliable data for measuring mortality, especially of infants, and for linking mortality levels to other determining or explanatory variables. It is the intention of this project to apply and evaluate a simple methodology for measuring social and economic conditions and health related practices which affect diarrhoeal morbidity and mortality in a rural area of Bangladesh. Researchers will analyze the data collected in this rural area to better understand correlates and determinants of diarrhoeal related morbidity and mortality among children under 5 years.

/INFANT MORTALITY/ - /INFECTIOUS DISEASES/ /SANITATION/ /MATERNAL AND CHILD HEALTH/
$54000   20 months
-INTERNATIONAL CENTRE FOR DIARRHOEAL DISEASES RESEARCH (ICDDRB), DACCA, BD

81-0197 (HS)
INFECTION/MALNUTRITION IN WEANLINGS (PERU)

Diarrheal diseases continue to be a major cause of morbidity and mortality among children in developing nations. The introduction of weaning foods for infants 3 to 6 months of age under poor hygienic conditions is likely to result in diarrhea. The objectives of this project are to study the epidemiology of diarrhea in children in Peru from birth to 12 months of age; determine the quantity and nutritional value of the breast milk and supplementary foods consumed by the infant; establish the growth patterns and nutritional status of the infants; and assess the quantitative effects of diarrheal disease and nutrient consumption on infant growth rates and nutritional status.

/INFECTIOUS DISEASES/ - /INFANTS/ /EPIDEMIOLOGY/ /FEEDING/ /DISEASE TRANSMISSION/
$243000   36 months
-INSTITUTO DE INVESTIGACION NUTRICIONAL, LIMA, PE

81-0198 (HS)
EFFICACY OF VACCINATION (COLOMBIA)

It has been found in a study involving Colombian children that mild malnutrition results in diminished immune responses to diphtheria, tetanus and BCG. This project seeks to further study the immune response of these same Colombian children over time and to determine whether, according to their nutritional status, they actually benefitted from the protection conferred by the vaccines. Specifically the objectives of the project are to measure the incidence of poliomyelitis, measles, diphtheria, whooping cough, tetanus and BCG in previously-immunized children, according to their nutritional status; and estimate the severity of the clinical symptoms when the diseases do occur.

/IMMUNIZATION/ - /MALNUTRITION/
$230500 36 months
-FUNDACION PARA LA EDUCACION SUPERIOR (FES), CALI, CO

81-0199 (AFNS)
WOOD ADHESIVES (CHINA)

The manufacture of particle board in China has been emphasized because of the wide range of raw materials that can be used with relatively simple technology. However, the volume of production has not increased as fast as expected, mainly because of the increasing shortage and high cost of the petrochemical-based synthetic resins that have been used as binder for the manufacture of panels. The general objective of this project is to develop a wood adhesive binder from spent sulfite liquor for the manufacture of particle board. Specifically, the project will evaluate the suitability of spent sulfite liquors from nine pulp mills for the preparation of thermosetting adhesives; develop an adequate binder system for the manufacture of particle board; and test the developed process in a particle board plant and evaluate the binding and strength properties of the manufactured products.

/ADHESIVES/ - /WOOD WASTES/ /PARTICLE BOARDS/
$220000 36 months
-CHINESE ACADEMY OF FORESTRY, BEIJING, CN

81-0200 (SS)
POPULATION AND DEVELOPMENT AWARDS - MEAWARDS (MIDDLE EAST) - PHASE II

The principal function of the Middle East Population and Development Awards (MEAwards) Program is to initiate, develop, fund and monitor research projects undertaken by scholars who are resident in the Middle East and North Africa. Continued IDRC funding will assist MEAwards in increasing knowledge and research capacity on population and development isues in Arab countries of the Middle East and North Africa and in Turkey through a series of small research awards and associated technical support.

/research fellowships/ /social research/ /population/
$155000 24 months
-POPULATION COUNCIL, NEW YORK, US

81-0201 (SS)
MIGRATION AND HOUSING IN MEDIUM CITIES (NIGERIA)

Nigeria over the past few decades has witnessed remarkably rapid urbanization. The recent creation of state capitals has directly led to a set of problems emanating from continual in-migration and the absence of corresponding increase in urban services. The objective of this project is to examine and evaluate the housing situation in three medium-sized towns in Nigeria. The project will involve a critical review of the response of both the public and private sectors to the demand for additional housing, and an analysis of the adaptive mechanism of migrants to a housing situation of scarce supply.

/URBANIZATION/ - /HOUSING NEEDS/ /INTERNAL MIGRATIONS/ /LIVING CONDITIONS/
$71500 18 months
-UNIVERSITY OF IFE, ILE-IFE, NG

81-0202 (IS)
BANANAS AND PLANTAINS INFORMATION CENTRE (BAPIC)

In addition to being grown for export, bananas and plantains are important as a staple food for large segments of the population in many developing countries. The goal of this project is to enable the Union of Banana Exporting Countries (UPEB) to extend and expand its Banana and Plantain Information Service for member countries and the rest of the world. The project will extend and increase services already begun and develop them to service a world clientele, by providing such outputs as a quarterly abstract bulletin, a directory of research workers, literature reviews and special bibliographies supported by a photocopy service.

/BANANAS/ - /INFORMATION SERVICES/ /FRUITS/
$161306 24 months
-UNION DE PAISES EXPORTADORES DE BANANO (UPEB), PANAMA CITY, PA

81-0203 (IS)
AGRINTER OUTPUT SERVICES

AGRIS (the International Information System for Agricultural Sciences and Technology) collects and redisseminates bibliographic references from national participating centres, which may act through regional centres. In Latin America, the Interamerican Centre for Agricultural Documentation and Information (CIDIA), with the aid of IDRC, established the AGRINTER network, in which bibliographic records are received from national participants and processed on CIDIA's computer into two files, one sent to AGRIS, the other used for a regional bibliography with Spanish indexing. The purpose of this project is to enable CIDIA to establish mechanized output services from the AGRIS/AGRINTER data bases in five selected Latin American countries, and in so doing, increase the exploitation of these data bases by using local computers.

/AGRIS/ - /INFORMATION SERVICES/ /COMPUTER PROGRAMMES/
$492696 37 months
-INSTITUTO INTERAMERICANO DE COOPERACION PARA LA AGRICULTURA (IICA), SAN JOSE, CR

81-0204 (HS)
ADVANCED INTRAUTERINE DEVICES (GLOBAL)

The Copper-T 380A and Ag devices (TCu 380A and TCu 380Ag) are the final product of 15 years of research and development. This project will promote the availability and introduction of the TCu 380A and TCu 380Ag into public and private sector family planning programs around the world. The project will support an informational, educational and distribution effort focusing on key target groups: policymakers, program managers, scientists, clinical practitioners and users. Specifically, the project will negotiate licencing agreements with several manufacturers; assist in obtaining regulatory-agency approval; arrange for initial supplies of the devices; prepare informational materials; obtain the participation of international donors; and inform and involve influential scientists.

/INTRAUTERINE DEVICES/
$317000 18 months
-POPULATION COUNCIL, NEW YORK, US

81-0205 (SS)
OILSEED PRODUCTION AND MARKETING (TANZANIA)

Oilseed production in Tanzania is a source of food within the subsistence sector and a source of foreign exchange earnings. There have been declines in marketed product and exports. The objective of this project is to identify and investigate those factors that affect oilseed production and marketing in Tanzania in order to recommend ways of increasing marketed output and export earnings. Specifically, the project will study the current oilseed production system of the Morogoro region; evaluate the competitive position of oilseeds in the region; and examine oilseed marketing arrangements.

/OILSEEDS/ - /MARKETING/
$16900 30 months
-UNIVERSITY OF DAR ES SALAAM, MOROGORO, TZ

81-0206 (HS)
BYSSINOSIS (HONG KONG)

Many industrial environments are conducive to lung disorders. With increasing industrialization in many developing countries, the exposure of workers to inhaled toxic materials represents a major health problem. Byssinosis is a disease associated with the cotton textile industry, resulting from prolonged exposure to the cotton dust. The main objective of this project is to estimate the extent of the problem of byssinosis in selected cotton textile workers in Hong Kong.

/OCCUPATIONAL DISEASES/ - /TEXTILE INDUSTRY/
$102600 20 months
-UNIVERSITY OF HONG KONG, HONG KONG, HK

81-0207 (SS)
FISHERIES POLICY (COSTA RICA)

In Costa Rica, efforts have been underway to diversify the predominantly agricultural economy. The government believes that the country's 1,200 kilometres of coast provide a good opportunity to expand and develop both artisanal and commercial fisheries. The objective of this project is to describe and analyze the impact of government policies on the development of Costa Rican fisheries betwen 1970 and 1981. The project will provide needed information on the impact of government fisheries policy on both small- and large-scale operations and the corresponding effects of such policies on transportation, marketing, retail sales, and exports.

/FISHERY POLICY/ - /FISHERY DEVELOPMENT/
$76700 21 months
-UNIVERSIDAD DE COSTA RICA, SAN JOSE, CR

81-0208 (HS)
ANTENATAL HEALTH CARE (MALAYSIA)

High rates of perinatal and maternal morbidity and mortality continue to be a major problem in most developing countries. A crucial factor of good obstetrics is the provision of adequate care during the antenatal period. The objective of this project is to examine the records of obstetric patients at the University Hospital in Kuala Lumpur, Malaysia, in order to determine whether three antenatal visits, ideally spaced at initial, near 33-34 weeks' and at 38 weeks' gestation, can adequately provide the health needs of low-risk obstetric cases.

/PREGNANCY/ - /HEALTH SERVICES/
$37300 24 months
-UNIVERSITY OF MALAYA, KUALA LUMPUR, MY

81-0209 (HS)
SEXUALLY-TRANSMITTED DISEASES (BRAZIL)

Sexually-transmitted diseases continue to spread unabated throughout the world. This project will focus on the study of gonorrhea, one of the most common of the sexually-transmitted diseases. The project will study the effectiveness of different drug regimes used to treat gonorrhea at the Center for Public Health Dermatology of the State Secretariat of Health and the Environment in Porto Alegre, Rio Grande do Sul, Brasil. Specifically, the project will study the efficacy of two antibiotics, ampicillin and procaine penicillin, and the incidence of adverse effects; and determine the minimum inhibitory concentrations of the strains isolated to various antibiotics so as to verify the existence or absence of resistance to these antibiotics. This project is part of a network of projects supported in Argentina, Chile and Jamaica.

/VENEREAL DISEASES/ - /DISEASE CONTROL/ /DRUGS/
$105800 12 months
-SECRETARIA DA SAUDE E DO MEIO AMBIANTE, RIO GRANDE DO SUL, BR

81-0210 (HS)
OCCUPATIONAL INJURIES (KOREA)

As a result of the rapid industrialization that has taken place in some developing countries, there is a growing concern about the health and safety of workers. In South Korea, a high rate of work-related injuries has been reported with respect to five major manufacturing processes. Researchers in this project will carry out a survey of causative factors of occupational injuries and make recommendations for implementing preventive measures. Specifically, the project will identify from injury reports the nature of the injury and the type of accident; visit factories to investigate hazardous conditions, the agent responsible for the accident and violation of safety procedures; and determine relationships between factors associated with injury and cause of the accident.

/OCCUPATIONAL ACCIDENTS/ - /WORKING CONDITIONS/ /OCCUPATIONAL SAFETY/
$56400 18 months
-CATHOLIC MEDICAL COLLEGE, SEOUL, KR

81-0211 (HS)
HEALTH/BANANA WORKERS (HONDURAS)

Banana cultivation is one of the oldest industries in Honduras and at present is controlled mostly by large foreign-owned companies. In order to increase production, these companies have introduced new agricultural technologies, mechanization and the use of insecticides and pesticides. Information on the health effects of these innovations is insufficient. The general objective of this project is to carry out a retrospective study of the health records of the workers in the banana plantations of the United Fruit Company in Honduras. Specifically the project will determine the morbidity and mortality due to work accidents and diseases in workers; and establish the frequency, type and severity of work-related accidents and illnesses with respect to specific variables.

/OCCUPATIONAL DISEASES/ - /OCCUPATIONAL ACCIDENTS/ /BANANAS/ /RURAL WORKERS/
$84380 19 months
-UNIVERSIDAD NACIONAL AUTONOMA DE HONDURAS, TEGUCIGALPA, HN

81-0212 (HS)
SEXUALLY-TRANSMITTED DISEASES (NIGERIA)

At present very little information is available on the incidence and prevalence of sexually-transmitted diseases (STD) in developing countries. This project will focus on gonorrhea, one of the most common of all the communicable diseases. Specifically the project will deal with infection in women attending the University of Nigeria, treat all patients with gonorrhea and evaluate the effects of treatment. In addition, the project will involve the monitoring of penicillin-resistant gonorrhea in the population studied.

/VENEREAL DISEASES/ - /DISEASE CONTROL/ /ANTIBIOTICS/
$54300 15 months
-UNIVERSITY OF NIGERIA TEACHING HOSPITAL, ENUGU, NG

81-0213 (SS)
REFUGEE EDUCATION (THAILAND)

The education of refugees in Southeast Asia has been one of the most intractable problems facing governments and relief agencies. The government of Thailand has agreed to allow primary education for ethnic Lao and hill-tribe Hmong refugees to be delivered in their own languages; however, there are no appropriate textbooks or teacher primers in the Lao or Hmong languages. The goals of this project are to encourage refugees to take greater responsibility for the development of educational materials for their communities; to train them in this process; and to produce materials for use both in formal and non-formal educational programs, both in refugee camps and in other concentrations of Laotians and Hmong elsewhere in the world.

/REFUGEES/ - /EDUCATION/ /TEACHING AIDS/ /TEACHER TRAINING/
$50000 10 months
-CHAO SURIN ASSOCIATION, BANGKOK, TH

81-0214 (IS)
MACROTHESAURUS MANAGEMENT (ISU)

The Macrothesaurus is a basic list of terms for the indexing of information related to social and economic development. The Macrothesaurus was originally developed in 1973 by the Organization for Economic Cooperation and Development (OECD) with IDRC support and was updated in 1978 with further IDRC assistance. The purpose of this project is to enable the Information Systems Unit (ISU) of the Department of International Economic and Social Affairs (DIESA) of the United Nations to establish, in cooperation with the Regional Economic Commissions, a program for the ongoing management and maintenance of the Macrothesaurus. An update of the second edition will be undertaken, and a draft of a third edition will be prepared. A meeting will be convened of technical experts from the Regional Economic Commissions with a view to coordinating the management and maintenance of the Macrothesaurus.

/THESAURUS/
$115000 24 months
-DEPARTMENT OF INTERNATIONAL ECONOMIC AND SOCIAL AFFAIRS (DIESA), NEW YORK, US

81-0215 (HS)
PERINATAL HEALTH (BRAZIL)

Perinatal mortality takes into account the factors and circumstances which are associated with the death of a child during the last stages of pregnancy and the period immediately following birth. Data reflecting perinatal mortality is extremely important to the development of effective maternal and child health services. This project proposes to develop a data base to measure perinatal morbidity (illness) and mortality in hospital-born babies in Pelotas, Brazil; and to explore possible relationships with specific maternal variables.

/INFANT MORTALITY/ - /MATERNAL AND CHILD HEALTH/
$51800 15 months
-UNIVERSIDADE CATOLICA DE PELOTAS, PELOTAS, BR

81-0218 (AFNS)
CAGECULTURE (DOMINICAN REPUBLIC) - PHASE II

Cageculture involves the breeding of fish in large underwater cages in lakes and other inland waters. Inland fish is the cheapest source of animal protein in the Dominican Republic. Phase I of this project was intended to demonstrate the practical opportunities for low-cost fish culture in cages. Three types of intensive fish culture systems were investigated with emphasis on floating cages. Optimum stocking densities of Tilapia sp. and the design of an economical and durable cage were other research activities of Phase I. The objectives of Phase II are to increase the production of low-cost fish protein; to further develop cageculture fish production and management techniques; to promote aquaculture throughout the country; and to investigate the use of agricultural by-products as a supplemental feed for fish.

/inland fishing/ /fish culture/ /fish production/ /feed/ /agricultural wastes/ /agricultural extension/
$272300 36 months
-ASSOCIACION PARA EL DESARROLLO INC., SANTIAGO DE LOS CABALLEROS, DO

81-0219 (HS)
BYSSINOSIS (INDONESIA)

The role of environmental factors in the etiology of many lung diseases has long been recognized. Many chemicals and compounds have been specifically linked to pulmonary diseases in humans, particularly those working in high-risk settings. Byssinosis is recognized as a disease which is associated with the textile industry, particularly where cotton, flax or hemp dust abound. The objective of this project is to study the incidence and severity of byssinosis and chronic obstructive airway disease in selected cotton workers in the textile industry in Jakarta, Indonesia.

/occupational diseases/ /textile industry/ /epidemiology/
$94200 24 months
-UNIVERSITY OF INDONESIA, JAKARTA, ID

81-0221 (SS)
TECHNOLOGY AND FEMALE EMPLOYMENT IN LEATHER GOODS SECTOR (URUGUAY)

The 1976 census of Uruguay documents the growing participation of women in the labour force and the economy. The objective of this project is to explore the technological implications for the Uruguayan leather products industry of the growth of domestic female labour. Specifically, the project will analyze the role of women in the industrial labour market; describe the work of domestic labourers in the leather goods sector, with reference to their recruitment, technical skills and contractual relations; and review the implications of the 'putting out' system for the long term participation of women in the labour market and its effect on technical change in the sector.

/FEMALE MANPOWER/ - /LEATHER INDUSTRY/ /TECHNOLOGICAL CHANGE/
$21700 10 months
-CENTRO DE INFORMACIONES Y ESTUDIOS DEL URUGUAY (CIESU), MONTEVIDEO, UY

81-0222 (IS)
MICROCOMPUTER-BASED PACKAGE FOR INFORMATION NETWORKS

The need for local computing facilities is great in developing countries. Researchers at smaller centres wishing to contribute documents to national, regional, or global data bases, must do so manually using worksheets. Local documentation centres can neither afford nor justify the acquisition of a large main frame computer or perhaps even a minicomputer to run information management systems such as ISIS or MINISIS. It is therefore the objective of this project to develop a generalized package of software to run on a variety of small microcomputers to allow small documentation centres to make contributions to DEVSIS and AGRIS networks in machine-readable form. It is also the intention of this project to enhance the microcomputer and information management expertise in two developing country institutions.

/COMPUTER PROGRAMMES/ - /MICROPROCESSORS/
$53900 12 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

81-0224 (SS)
AGRICULTURAL ECONOMICS RESEARCH (SRI LANKA)

Sri Lanka's economy is primarily agricultural, but the country's supply of labour trained in agricultural economics and rural development is low and the amount of money available for research in these fields negligible. The objective of this project is to provide funds for fieldwork to be undertaken by the Agricultural Economics Research Unit within the Faculty of Agriculture at the University of Peradeniya. Specifically, the project will support the direct costs of field research on key policy issues of agricultural development; develop the research skills of staff and students; and facilitate the development of teaching materials.

/AGRICULTURAL ECONOMICS/ - /ORGANIZATION OF RESEARCH/ /RURAL DEVELOPMENT/ /FIELD RESEARCH/ /INSTITUTION BUILDING/
$95400 36 months
-UNIVERSITY OF PERADENIYA, PERADENIYA, LK

81-0225 (SS)
NON-TRADITIONAL EXPORTS (NICARAGUA) - PHASE I

Nicaragua is one of a number of developing countries which has seen its demand for foreign exchange grow substantially since the 1979 OPEC price increase. Traditionally Nicaragua has relied on the export of coffee, meat and cotton to meet its foreign exchange requirements. It is now agreed that the development of non-traditional exports is a key area for future economic development. This project will be devoted to data collection, classification of non-traditional exports and the identification of the most promising non-traditional products for export development.

/EXPORTS/ - /EXPORT EARNINGS/
$16000 6 months
-INSTITUTO CENTROAMERICANO DE ADMINISTRACION DE EMPRESAS (INCAE), MANAGUA, NI

81-0226 (SS)
STRATUM TWO ECONOMICS RESEARCH (INDONESIA)

There is a serious shortage of trained economists in Indonesia. This project will help upgrade the skills of economics teachers in Indonesia. Specifically, the project will assist Gadjah Mada University to continue its two-year M.A. program in economics, primarily for young faculty members teaching at provincial universities.

/ECONOMIC RESEARCH/ - /UNIVERSITIES/
$30700 6 months
-GADJAH MADA UNIVERSITY, YOGYAKARTA, ID

81-0227 (SS)
KAFUE FISHERIES (ZAMBIA)

Zambia faces major problems in food production, as part of a wider economic crisis in the country. One sector that has been successful in expanding food supply has been the Lake Kafue Fisheries. The objectives of this project are to understand the economics of the Lake Kafue Fisheries; to record and improve the fishing technologies being used; to analyze the political constraints faced by fishermen and traders; to contribute to communication between fishermen and the government; and to expand Zambian research capacities and knowledge in rural development through the use of audiovisual techniques.

/FISHERY INDUSTRY/ - /FISH PRODUCTION/ /ECONOMIC ANALYSIS/ /MARKETING/ /FISHERY DEVELOPMENT/
$92000 24 months
-INSTITUTE FOR AFRICAN STUDIES (INSAS) OF THE UNIVERSITY OF ZAMBIA, LUSAKA, ZM

81-0228 (SS)
URBAN SERVICES AND NATIONAL DEVELOPMENT (KOREA)

Since 1962 the Republic of Korea has been experiencing exceptionally rapid urbanization. The rapid growth of cities in Korea has not been matched by corresponding provision of urban services, particularly in medium and small cities. The objective of this project is to analyze and compare the types, amount and trends of urban services in medium and small cities in Korea. The project will assess the implicit and explicit urban development policies in national development plans and probe possible new directions for development policies intended to reduce urban poverty and enhance regional equality. Specifically the project will examine the relationship between city size and levels of urban services, and the roles of medium and small cities as regards the rural population.

/PUBLIC SERVICES/ - /URBAN AREAS/ /URBAN CONCENTRATION/ /DEVELOPMENT POLICY/
$57100   18 months
-INSTITUTE OF ECONOMIC RESEARCH OF SEOUL NATIONAL UNIVERSITY, SEOUL, KR

81-0229 (SS)
ORGANIZATION AND ADVANCEMENT OF LOW-INCOME WOMEN (ECUADOR)

Women in low-income neighborhoods can become useful resources for improving conditions in their environments. The overall objective of this project is to conduct research, training, and organizing activities among women in low-income communities in Ecuador, in order that they may help members of these communities improve their living conditions through self-help approaches and greater political awareness. Specifically the project will investigate the socio-economic conditions of women in low-income communities; provide leadership training and promote the creation of self-reliant organizations; train women in income-generating skills; provide an evaluation of this multi-activity project; and develop a methodology for action research.

/WOMEN/ - /LOW INCOME/ /EDUCATION OF WOMEN/ /SELF-HELP/ /SOCIAL PARTICIPATION/
$31000   18 months
-CENTRO DE PLANIFICACION Y ESTUDIOS SOCIALES (CEPLAES), QUITO, EC

81-0230 (SS)
SCHOOL FAILURE IN CHILE

It is a simple fact that many children of poor families in the developing world do not finish primary school. The general objective of this project is to study the learning environment of selected Chilean primary schools in order to discover what factors within the school system contribute to the success or failure of pupils as assessed by the formal requirements of the educational bureaucracy. Specifically the project will explore the meaning given to educational success and failure; and describe interaction processes between teachers and pupils, the behaviours of children who are considered to be "failures", and the relationship between administrators and teachers. The analyses will be carried out comparatively across both public and tuition-free private schools.

/PRIMARY EDUCATION/ - /SCHOOL ENVIRONMENT/
$38850   12 months
-PROGRAMA INTERDISCIPLINARIO DE INVESTIGACION EN EDUCACION (PIIE), SANTIAGO, CL

81-0231 (SS)
AGRICULTURE, FOOD, AND INFLATION (PERU)

Peru now ranks among the Latin American countries most affected by inflation. The general objective of this project is to study the relationships between agriculture, food, and inflation in Peru. Specifically, the project will collect and analyze information and statistics on inflation in Peru; analyze the relationships among overall inflation, food inflation, food pricing policies, and household food purchases; evaluate the impact of inflation on the peasant economy; and formulate policy recommendations for policymakers.

/INFLATION/ - /FOOD/ /PRICING/ /FOOD POLICY/ /PEASANTS/ /INCOME DISTRIBUTION/
$54500 12 months
-INSTITUTO DE ESTUDIOS PERUANOS (IEP), LIMA, PE

81-0232 (HS)
MOBILE NURSING CLINIC (PHILIPPINES) - PHASE I

The provision of health services to isolated populations in remote areas of developing countries continues to pose a problem for local health authorities. In a province of the Philippines, an attempt has been made to deal with this through the use of a mobile nursing clinic (MNC). This project will evaluate existing and improved MNC services and help to determine the feasibility of implementing this approach in other parts of the country. Specifically, the project will assess attitudes and observe reactions of the communities towards the MNC; determine the health status and needs of the communities; organize and provide curative and preventive health care services; and study the attitudes and reactions of members of the communities to the new approaches to delivering health services.

/HEALTH SERVICES/ - /HEALTH FACILITIES/ /NURSES/
$53300 18 months
-SAINT LOUIS UNIVERSITY, LUZON, PH

81-0233 (SS)
URBAN DEVELOPMENT POLICIES (COLOMBIA)

Colombia is noted for its rapid rate and distinctive pattern of urbanization. Most urban research in Colombia has centred on the four largest cities, as a result, much less is known about intermediate urban centres. The objective of this project is to analyze urban development policies and the pattern of urbanization in Colombia over the past three decades, with particular emphasis on intermediate centres. Specifically the project will analyze economic and demographic characteristics and growth trends in the 30 largest urban centres and contrast the four largest centres with the intermediate centres; provide a detailed analysis of selected intermediate centres, with a view to evaluating their potential for further growth; and evaluate the effect of government policies and programs on urban growth.

/URBAN DEVELOPMENT/ - /URBANISM/ /GOVERNMENT POLICY/ /GROWTH POLES/
$20000 12 months
-UNIVERSIDAD DE ANTIOQUIA, MEDELLIN, CO

81-0234 (SS)
TECHNOLOGY TRANSFER AND BALANCE OF PAYMENTS (MEXICO)

The growing consensus among international economists and officials that developing countries should encourage export oriented policies in order to promote economic growth takes little account of either existing industrial structures or technology costs. This project will attempt to look at the costs and benefits of imported and domestic technology in the government of Mexico's manufacturing sector. The research will describe and analyze the relationship between the transfer of technology, the balance of payments and the manufacturing growth and investment; collect information on firm specific exports and relate this evidence to firm behaviour; and analyze the relationship between the technological capacity of firms and their foreign trade performance.

/TECHNOLOGY TRANSFER/ - /BALANCE OF PAYMENTS/ /SCIENCE POLICY/
/MANUFACTURING/
$65000 18 months
-EL COLEGIO DE MEXICO, MEXICO, MX

81-0235 (SS)
DETERMINANTS OF INFANT MORTALITY DECLINE (CHILE)

It is generally acknowledged that infant mortality is one of the most reliable indices of the level of socioeconomic development, health and well-being of a society. In the case of Chile the applicability of this norm has been questioned. During the last ten years (1970-1980) the infant mortality rate has declined dramatically yet indicators of living standards imply a deterioration in socioeconomic conditions. This project seeks to examine the question of why infant mortality rates lowered so significantly over the last decade. It will relate infant mortality to demographic, health and socioeconomic indicators in order to determine which seemed to have played the dominant part in reducing infant deaths. Research will concentrate on three urban areas of Santiago.

/INFANT MORTALITY/
$35300 12 months
-ACADEMIA DE HUMANISMO CRISTIANO (AHC), SANTIAGO, CL

81-0236 (SS)
INFORMAL EMPLOYMENT IN LOME (TOGO)

The vast majority of rural migrants who seek work in Lomé, the capital city of Togo, find jobs in what is called the informal employment sector. These workers are artisans or small street merchants and are not qualified for better jobs nor are they eligible for social benefits. The Ministry of Planning needs to know how many people are working in the informal sector and what is the exact nature of their activities in order to formulate employment programs and to expand public services. The project will fund a social survey of 1,500 people who work in Lomé, the informal sector in Lomé, and will be carried out by researchers at the Ecole Superieure des Techniques Economiques et de Gestion at the University of Bénin.

/EMPLOYMENT/ - /INFORMAL SECTOR/ /EMPLOYMENT POLICY/
$24200 10 months
-UNIVERSITE DU BENIN, LOME, TG

81-0237 (SS)
CEDES-INSTITUTIONAL GRANT 1982 (ARGENTINA)

The Centre for Studies on State and Society (CEDES) is one of the leading social science research institutions in Argentina. The activities carried out by CEDES are many and varied, but are tied together by a common thread: the search for a better understanding of today's relationships between the state and civil society in Argentina and their effects on the poorer social groups. The objective of this project is to provide an institutional support grant for a one-year period to strengthen the administrative and financial stability of CEDES. The grant will facilitate the process of definition, planning and organization of the future program of work of CEDES.

/social research/ - /SCIENTIFIC COOPERATION/
$34000 12 months
-CENTRO DE ESTUDIOS DE ESTADO Y SOCIEDAD (CEDES), BUENOS AIRES, AR

81-0238 (SS)
SMALL FARM ECONOMICS (URUGUAY)

In many countries a trend toward concentration in land ownership and the progressive disappearance of the small farm have been observed in recent decades. In Uruguay the small farm continues to exist and the proportion of population in rural areas tends to remain stable. From technology and economics perspectives the small farm in Uruguay should be disappearing. This project will address this apparent contradiction by analyzing a number of aspects of small farm economics in Uruguay. Specifically, the project will examine the relationship between labour and productivity, and production structure and employment; analyze the income structure; study the impact of technological changes on the economics of small farms; and explore the importance of political stability in the rural areas as a factor in small farm economics.

/FARM SIZE/ - /AGRICULTURAL ECONOMICS/ /FARMS/ /AGRICULTURAL PRODUCTION/
/PRODUCTION FACTORS/
$53200 18 months
-CENTRO LATINOAMERICANO DE ECONOMIA HUMANA (CLAEH), MONTEVIDEO, UY

81-0239 (SS)
URBAN SERVICES AND URBAN PLANNING (SUDAN)

In many developing countries ineffective urban planning has resulted in inadequate or non-existent urban services. The Sudan's Triple Capital, Khartoum, South Khartoum and Omdurman, is one such metropolitan area which has been beset with the problem of poor basic services in many outlying and low-income urban areas. It is the purpose of this project to examine the conceptual and administrative defects of the existing urban policy in the Sudan's Triple Capital with a view to devising new measures of delivering basic services to the urbn poor. Specifically the project will analyze the existing legislation on planning; highlight the neglected role of urban planning as an effective tool for social justice; analyze unsuccessful government social programs; and suggest changes in the philosophy of and approach to urban planning and management.

/URBAN PLANNING/ - /GOVERNMENT POLICY/ /LEGISLATION/ /SOCIAL SERVICES/
$10800 15 months
-UNIVERSITY OF KHARTOUM, KHARTOUM, SD

81-0240 (HS)
SEXUALLY-TRANSMITTED DISEASES (JAMAICA)

Sexually-transmitted diseases (STD) continue to spread unabated throughout the world. This project will focus on gonorrhea, one of the most important of the STD infections. The objectives of the project are to compare the efficacy of two antibiotics, procaine penicillin G. and ampicillin, both given with probenicid in the treatment of acute noncomplicated gonorrhoeae; determine the minimum inhibitory concentrations of the strains isolated to various antibiotics and correlate the results with the efficacy of treatment; and study the incidence of adverse reactions. This project is part of a network of projects supported in Argentina, Chile and Brazil.

/VENEREAL DISEASES/ - /DISEASE CONTROL/ /ANTIBIOTICS/
$65000 12 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA
-UNIVERSITY OF THE WEST INDIES (UWI), KINGSTON, JM
-MINISTRY OF HEALTH, KINGSTON, JM

81-0241 (SS)
PROVINCIAL EDUCATION PLANNING (THAILAND)

A study conducted by Thailand's National Education Commission (NEC) revealed several problems associated with primary school administration, which were related to the inability of Thailand's highly centralized educational system to react to local conditions and needs. It was recommended that the government move toward greater decentralization, both in administration and in decision-making. This project will enable NEC and the National Primary Education Commission (NPC) of Thailand to develop, implement, and evaluate experimental mechanisms for decentralized planning and management at the provincial level. Specifically, the project will analyze the present planning and management systems for education; and develop a data base and a data-gathering system required for the strengthening of provincial administrative, planning, and decision-making functions.

/EDUCATIONAL PLANNING/ - /EDUCATIONAL ADMINISTRATION/
$53200 24 months
-NATIONAL EDUCATION COMMISSION (NEC), BANGKOK, TH

81-1001 (AFNS CP)
Microbial Protein (Guelph)

Human and animal nutrition in developing countries is severely constrained by a lack of protein. Research workers have proposed projects to produce microbial protein from carbohydrate and other fermentable material that appear as by-products or surplus to human need in developing countries. The University of Guelph has made systematic progress in the identification of biologically efficient and safe means of producing high quality protein from cassava and inorganic nitrogen phosphorus. The objective of this project is to develop an economically viable, practical process for the conversion of cassava starch and inorganic nitrogen into microbial protein suitable for animal feed. Researchers will evaluate the economic feasibility of the existing liquid fermentation process and possible modifications such as the solid state fermentation technique.

/proteins/ /cassava/ /microbiology/ /feed/
$133850 24 months
-University of Guelph. Department of Microbiology, Guelph, Ontario, CA

81-1002 (HS)
Bio-control of Mosquitos (South Pacific) - Phase I

Mosquitoes carry a wide range of diseases, including malaria, yellow fever, dengue fever and filariasis. An increasing concern for the environment and the ever-present threat of mosquito resistance to synthetic insecticides have stimulated interest in alternative methods of control. This proposal will study the role of two biological agents used in conjunction with a chemical method for the control of mosquitoes in a Pacific environment. Specifically, the researchers will study the use of sanitation measures, biological agents and a pesticide in an integrated mosquito-control program; establish baseline levels of mosquito populations and breeding habits; distribute the control agents in mosquito-breeding areas; and monitor the effects of control measures on the density of mosquito vectors.

/pest control/ /sanitation/ /biochemistry/ /pesticides/
$33500 12 months
-Memorial University of Newfoundland. Research Unit on Vector Pathology, St. John's, CA

81-1003 (CP)
Regional Cooperation Research Program

The Regional and Inter-regional Cooperation Program to be coordinated by the United Nations Institute for Training and Research (UNITAR) is a significant response to developing country aspirations. This project will enable Carleton University to contribute to the Program in cooperation with other participating research institutions. Norman Paterson School of International Affairs (NPSIA) of Carleton University will assess the responses of the North in general and Canada in particular, to NIEO (new international economic order) proposals; examine a range of regional strategies for Third World development, with emphasis on the role of the North in South-South cooperative arrangements, and recommend the most appropriate of these to the Program Secretariat at the United Nations Institute for Training and Research (UNITAR); and offer graduate students from developing countries direct research participation.

/New International Economic Order/ /economic cooperation/
$82000 24 months
-Carleton University. Norman Paterson School of International Affairs, Ottawa, Ontario, CA

81-1004 (AFNS CP)
Fish Deboner (Halifax)

Throughout the world there is considerable potential for increasing food supplies from fish. By-catch of shrimp trawling, and other under-utilized species could be utilized for human food. However, the labour and time required to handle this new raw material make it unattractive. There is need for simple low-cost processing equipment. The objective of this project is to develop a small-scale machine for mechanically deboning fish from small and under-utilized species, suitable for application under developing country conditions. Researchers will examine design principles; develop and test a prototype of the most suitable design; and evaluate the prototype and modify where appropriate, in fish meat and lukchin factories in Bangkok, Thailand.

/fishery product processing/ /engineering design/
$137800 24 months
-Technical University of Nova Scotia. Fisheries Research and Technology Laboratory, Halifax, CA
-Atlantic Bridge Company Ltd., Lunenburg, Nova Scotia, CA

81-1005 (AFNS CP)
Yellow dwarf virus (Laval) - Phase I

The barley yellow dwarf virus (BYDV) is now considered by pathologists to be the number one enemy of grains in the world. It strikes grain fields in developed and developing countries alike. This project will support the genetic study of resistance to BYDV in wheat and triticale.

/plant diseases/ /genetic improvement/ /cereals/ /plant breeding/
$162007 36 months
-Université Laval. Département de Phytologie, Québec, Qué., CA

81-1007 (FAD CP)
Bivalve Training Project (Dalhousie) - Phase I

The key to successful bivalve culture developments is knowledgeable field supervision by a technician trained in the principles and practices of bivalve culture. IDRC has provided training for personnel associated with IDRC bivalve culture projects by sending technical advisors to the countries in which the projects were located. It is the intention of this project to provide formal instruction for field supervisors at Dalhousie University in Halifax, Canada. The project will provide formal short-course instruction, practical field experience and on-the-job training for foreman supervisors from LDCs in the farming of oysters and other bivalves by various systems of culture; and provide essential technical instruction on all bivalves that are farmed as a background for cultivation practices.

/oyster culture/ /molluscs/ /training courses/ /aquaculture/
$87500 12 months
-Dalhousie University, Halifax, Nova Scotia, CA

81-1008 (IS CP)
Lentil News and Information Service (LENS)

Lentils are one of the most widespread and adaptable plants of the dry areas, and, therefore, are one of the mandated crops in the research programs of the International Centre for Agricultural Research in the Dry Areas (ICARDA). The University of Saskatchewan has been engaged in research on dry-area crops, and has been providing a rudimentary information service on lentils. This project will enable the University of Saskatchewan and ICARDA to cooperatively collect information on lentils and disseminate it to international users. Through this project the newsletter LENS will be published regularly, and a document storage and retrieval system will be established, as well as a question-and-answer service and a photocopy service. Special bibliographies will be issued and a directory of research workers and research institutions will be published.

/lentils/ /information services/ /directory/
$97000 36 months
-International Development Research Centre (IDRC), Ottawa, CA
-University of Saskatchewan, Saskatoon, CA
-International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, SY

81-1009 (CP)
ENTERPRISE PERFORMANCE (EGYPT)

Egypt has recently introduced measures to deregulate the economy with the assumption that Egyptian firms will respond to increased autonomy in an economically efficient manner. Deregulation of the economy has focused attention on the need to raise efficiency through improvements in managerial training and in managerial and organizational practices. However, investments in training and changes in managerial techniques have had only limited success in raising efficiency. This project will identify managerial and organizational factors influencing firm effectiveness and performance; and collect systematically data on firm effectiveness and on managerial and organizational factors which will form the basis for further research.

/ENTERPRISES/ - /EVALUATION/ /MANAGERS/ /MANAGEMENT DEVELOPMENT/
$238200 24 months
-ALEXANDRIA UNIVERSITY, ALEXANDRIA, EG

81-1010 (SS)
LABOUR AND FORESTRY POLICY (CHILE)

Forestry represents one of the most dynamic sectors of the Chilean economy. However, relatively little is known of the dynamics of growth of the forestry sector and the effects on the growth of small rural centres in and around the major areas of forestry production. The purpose of this project is to analyze the effect of various social and economic policies on labour markets, migration and rural community services in the Chilean forestry sector. Researchers will determine the volume and characteristics of migration to and from the forestry regions; describe the structure and degree of organization of peasant villages in the region and the access to services such as housing, education and health; determine changes in the peasants' incomes; and determine changes in peasant family structure and related characteristics.

/FORESTRY INDUSTRY/ - /LABOUR MARKET/ /LABOUR MIGRATIONS/ /SOCIAL SERVICES/
$24500 12 months
-CENTRE FOR RESEARCH ON LATIN AMERICA AND THE CARIBBEAN (CERLAC), DOWNSVIEW, ONTARIO, CA

81-1012 (CP)
Cyprus Crustal Study - Phase I

Cyprus is underlain by an uplifted segment of ocean crust. Such segments commonly occur in collision zones between crustal plates: Cyprus lies in the collision zone between African and Eurasian crustal plates. The overall objective of this project is to carry out scientific investigations regarding the nature of and processes associated with ocean crust formation, and combine this scientific investigation with training and resource development program which will involve Canada, the host country, Cyprus, and a number of developing countries. The research program is designed to yield information on the formation of copper-bearing ores, on the incidence of sources geothermal energy, and on the potential scope of groundwater resources in certain classes of crystalline rock.

/geological surveys/ /natural resources/ /hydrogeology/ /drilling/
$305800 24 months
-Dalhousie University, Halifax, Nova Scotia, CA

81-1014 (CP)
Aquatic Pollution in the Caroni River (Trinidad) - Phase I

Increasing industrial development in Trinidad and Tobago during the last decade has had a significant impact on the environment. The direct discharge of effluents from various industries into the waterways poses a distinct hazard as these waters are used by the local population for domestic and recreational purposes. The Caroni River in Trinidad is one of the most heavily polluted by industry. The overall objective of this project is to develop an analytical methodology for the identification and quantification of the trace organic pollutants in the Caroni River and to apply such methodology to a survey of the important organic pollutants present in the river. Specifically, the project will establish the distribution of the pollutants; and determine the sources of the pollutants, and their fate.

/water pollutants/ /river pollution/ /sample/
$78760 24 months
-University of Waterloo. Guelph-Waterloo Centre for Graduate Work in Chemistry, Waterloo, Ont., CA
-Caribbean Industrial Research Institute (CARIRI), Port of Spain, TT

81-1015 (SS CP)
Economic strategy (Tunisia) - Phase I

Tunisia experienced rapid economic growth during the 70's, mainly as a result of growth in earnings from petroleum exports. Therefore, government revenues were highly buoyant during that time. However, during the coming decade, Tunisia will be forced to make significant changes in economic policy if the country is to continue to enjoy a rapid rate of economic growth. Oil resources are being depleted rapidly; there is a need for new sources of foreign exchange. The decline in petroleum exports will reduce the rate of growth in government earning. Tunisia's labour force will continue to expand rapidly during the coming decade; there is a pressing need for employment creation. The aim of this project is to help Tunisia develop an economic strategy by analyzing the impact of changes in policies on prices, productivity and incomes.

/economic policy/ /price policy/ /productivity policy/ /incomes policy/ /policy making/
$284890 24 months
-Université de Montréal. Centre de recherche et développement economique, Montréal, Québec, CA
-Institut d'Economie Quantitative, Tunis, TN

81-1016 (AFNS CP)
CASAFA SECRETARIAT I

The International Council of Scientific Unions (ICSU) created an International Commission on the Application of Science to Agriculture, Forestry and Aquaculture (CASAFA), in early 1979. CASAFA promotes cooperation between scientists in developed and developing countries in order to ensure the application of basic scientific research to solving agricultural problems and to increasing food production. This project will finance a small scientific secretariat for CASAFA.

/SCIENTIFIC COOPERATION/ - /ORGANIZATION OF RESEARCH/ /AGRICULTURE/
$38000 12 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

81-1017 (CP)
INTERNATIONAL DEVELOPMENT OFFICE (1982-83)

The Secretariat for International Development is composed of representatives from IDRC, the Canadian International Development Agency (CIDA), and the Association of Universities and Colleges of Canada (AUCC). It was created to foster cooperation among Canadian universities in the field of international development and to maintain links with universities in the Third World. The present project is a renewal of IDRC's financial support of the Secretariat's projects, including the publication of information about the Secretariat and a directory of Canadian universities which deal with development, the coordination of student exchanges, and the preparation of workshops and seminars.

/SCIENTIFIC COOPERATION/ - /UNIVERSITIES/ /ORGANIZATION OF RESEARCH/
$46400 12 months
-INTERNATIONAL DEVELOPMENT OFFICE, OTTAWA, ONTARIO, CA

81-1018 (AFNS)
Domestication of Aquaculture Stocks (Dalhousie) - Phase I

The use of hatchery-produced fish "seed" is increasing rapidly in developing countries as natural stocks become inadequate. Procedures have been developed for the controlled spawning of fish, and these procedures can be coupled with genetic stock improvement. The overall objective of this project is to improve aquaculture stocks by undertaking research on methodologies for broodstock selection and control of inbreeding. Specifically this project-definition phase will identify the animals and styles of aquaculture that are most amenable to genetic control; devise workable scientific procedures for use in future research activities; and collaborate with colleagues in developing countries in arranging for the second phase of the project, which consists of a 3-year cooperative research project involving Dalhousie University, IDRC, and institutions in developing countries.

/aquaculture/ /fish breeding/
$30550 6 months
-Dalhousie University. Department of Biology, Halifax, Nova Scotia, CA

82-0001 (SS)
MACROECONOMICS AND BALANCE OF PAYMENTS RESEARCH (CHILE) - PHASE II

In recent years, the world economy has been characterized by severe recession and rapid inflation. The Economic Research Corporation for Latin America (CIEPLAN) has undertaken an analysis of Chile's macroeconomic stabilization policies. In Phase I of this project, CIEPLAN conducted studies on indexation, national accounts statistics, changes in income distribution, and external trade statistics. In Phase II, CIEPLAN will conduct research on the process of price formation and the relationship between wage policy and employment in the Chilean economy; and on the optimal degree of openness of the Chilean economy, with special reference to the roles of private external capital flows and of the government's exchange rate policy. Efforts will be made to disseminate research findings, and the project will provide training to young professional economists.

/MACROECONOMICS/ - /BALANCE OF PAYMENTS/ /ECONOMIC POLICY/ /PRICES/ /WAGE POLICY/ /EMPLOYMENT/
$595000 27 months
-CORPORACION DE INVESTIGACIONES ECONOMICAS PARA AMERICA LATINA (CIEPLAN), SANTIAGO, CL

82-0002 (AFNS)
FISH PROCESSING (CHILE)

Chile's small fishermen have not benefitted from the many improvements in technology and marketing infrastructure that have developed the commercial fishery industry in Chile. The people in the 150-200 small fishing villages along Chile's long coastline eke out a precarious living because of the lack of a stable market for their catch due to their relative isolation or because most of their catch is unsuitable for the fresh fish market. The project will develop a small-scale fish processing industry in Chilean fishing villages to encourage higher landings and greater utilization of fish. Researchers will develop appropriate processing procedures and produce acceptable products for the school meal institutional market; and thereby ensure a cheap source of protein for this program and a stable market for the villagers' catch.

/FISHERY PRODUCT PROCESSING/ - /FISHERY PRODUCTS/ /COASTAL FISHING/ /PROTEIN RICH FOOD/
$146200 24 months
-INSTITUTO DE FOMENTO PESQUERO (IFOP), SANTIAGO, CL

82-0003 (SS)
CHOICE OF TECHNIQUE IN SPINNING AND WEAVING (BANGLADESH)

In Bangladesh, traditional production techniques for spinning and weaving account for substantial shares of employment and output in the textile industry. The objectives of this project are to examine the range of alternative techniques of production within the modern processes of textile manufacture; determine the economic costs and benefits of the use of modern spinning techniques with hand weaving operations; and provide an economic analysis of the viability of modified handspinning techniques developed in India if introduced in Bangladesh.

/TEXTILE INDUSTRY/ - /CHOICE OF TECHNOLOGY/ /WEAVING/ /SPINNING/ /ECONOMIC ANALYSIS/
$34775 12 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

82-0004 (SS)
FOOD TECHNOLOGY POLICY (NIGERIA)

African economic and social welfare depends on agricultural prosperity, but the agricultural sector is failing to provide food for Africa's growing population. Little is known about the nature of technological inputs and their potential for African agricultural growth. The general objective of this project is to examine the contribution of technology to food self-sufficiency in African countries and to determine how technology policy might contribute to this goal. Specifically phase I will attempt to set out a method and form of analysis for evaluating the costs and benefits of food self-sufficiency in Nigeria and its consequent implications for technology by examining the supply and demand for the technology of two crops: maize and cassava.

/FOOD PRODUCTION/ - /science policy/ /SELF-RELIANCE/ /COST-BENEFIT ANALYSIS/ /MAIZE/ /CASSAVA/
$92000 18 months
-UNIVERSITY OF IBADAN, IBADAN, NG

82-0005 (IS)
INFORMATION FOR EXPORT PROMOTION (COSTA RICA) - PHASE I

The Republic of Costa Rica is undergoing a severe balance of payments crisis; the promotion of exports is seen as a means to relieve this crisis. Accordingly, the government is supporting a feasibility study of the type of information system that would best support decision-making in the export trade and the management of international payments. CETTEM (Centre for Telecommunications in the Thirld World) a non-profit intergovernmental organization of Central American countries will manage the feasibility study. Inventories of actual and potential users of the information program, and existing information resources will be prepared. Information programs of other developing countries will be reviewed. To construct an "information supply mechanism", procedures will be designed and tested, and needed resources identified.

/EXPORT PROMOTION/ - /INFORMATION NEEDS/ /INFORMATION USERS/
$79000   4 months
-CENTRO DE TELECOMUNICACIONES PARA EL TERCER MUNDO (CETTEM), SAN JOSE, CR

82-0006 (HS)
EXPANDED IMPLANT TRIAL (INDONESIA)

A priority in family planning programs is the development of improved methods of fertility control and contraceptive delivery systems. The hormonal silastic implant (Norplant) is the product of 15 years of research and is one of the most advanced long-acting forms of protection against pregnancy. This project will evaluate Norplant in Indonesian women with regard to acceptability in rural and urban populations, continuation rates, effectiveness against pregnancy, and major side effects if any. Other objectives of the project are to train a medical core in insertion and removal techniques; evaluate and modify support materials; obtain approval from the Indonesian Food and Drug Administration for wide-scale distribution of Norplant; and develop guidelines for introduction of Norplant into the national family program.

/CONTRACEPTIVES/ - /FAMILY PLANNING PROGRAMMES/
$95100   24 months
-YAYASAN KUSUMA BUANA (YKB), JAKARTA, ID

82-0007 (SS)
COMPUTER CONFERENCING INFRASTRUCTURE (LATIN AMERICA)

Computer based conference systems (CBCS) is a new method of information exchange building on the speed and retrieval capacity of the computer. The purpose of this project is to examine the current and potential use of computer conferencing for scientific exchanges in Mexico and Brazil. The research will review and analyze the present laws and norms which pertain to computer based data flows in Mexico and Brazil; examine the telecommunications infrastructure; identify the applications and benefits of computer based conferencing systems; and prepare general recommendations for other countries in Latin America.

/COMPUTER CONFERENCING/ - /TELECOMMUNICATIONS/ /SCIENTIFIC INFORMATION/ /INFORMATION EXCHANGE/ /LEGISLATION/
$50000   6 months
-CENTRO REGIONAL PARA AMERICA LATINA Y EL CARIBE, MEXICO, MX

82-0008 (HS)
INITIATION OF SPERM MOTILITY (THAILAND) - PHASE II

There is a growing realization that if an effective male contraceptive is to be developed a greater understanding of the physiology, anatomy and biochemistry of the male reproductive system is essential. Phase I of this project investigated the biochemical processes taking place in mature epididymal spermatozoa of rats as they are activated from the quiescent state to the forward motile state that enables sperm to "swim" towards the egg and fertilization in the female reproductive system. Research was conducted to explore the possibility of preventing initiation of sperm motility as an approach to the development of a male contraceptive. The main objective of Phase II is to systematically search for a quiescent factor(s) in the rat epididymal fluid which maintains sperm in the nonmotile state.

/birth control/ /MALES/ /PHYSIOLOGY/ /CONTRACEPTIVES/
$66600 24 months
-MAHIDOL UNIVERSITY, BANGKOK, TH

82-0009 (SS)
SOCIAL ASPECTS OF RURAL TECHNOLOGY (LATIN AMERICA)

Peasant farming systems are not static but respond to economic and social changes in the agricultural sector. Central to the issue of change is the nature of the technology that peasant communities can use to increase their productivity. The purpose of this project is to organize a network of centres presently undertaking research on issues of peasant production and technology in Latin America. The project will provide for the coordination and development of the network and, through a process of interactions and exchanges between the institutions, will strengthen the research capacity of all the institutions in the network.

/APPROPRIATE TECHNOLOGY/ - /PEASANTS/ /ORGANIZATION OF RESEARCH/ /social research/ /INFORMATION DISSEMINATION/
$394100 24 months
-FUNDACION PARA LA APLICACION Y LA ENSENANZA DE LAS CIENCIAS (FUNDAEC), CALI, CO

82-0010 (SS)
LITERACY CAMPAIGN (ETHIOPIA)

Literacy campaigns have become an important tool of education and political socialization in the developing world. This project will organize and implement an evaluation of the Ethiopian national literacy campaign. Specifically the project will explore ways to improve the data base required at the district level to assess the outcomes of the literacy campaign; analyze the process and impact of the campaign; and assess what further educational activitiies should follow the campaign.

/LITERACY/ - /EDUCATIONAL RESEARCH/
$168000 30 months
-MINISTRY OF EDUCATION, ADDIS ABABA, ET

82-0011 (AFNS)
SORGHUM MILLING (ZIMBABWE)

There has been a shift away from sorghum toward maize consumption in Zimbabwe because traditional processing of sorghum is time consuming and laborious. With greater consumer demand for maize, farmers are being forced to plant maize and deal with the far greater risk of crop failure due to drought. The overall objective of this project is to increase the utilization and production of sorghum through the establishment and operation of a sorghum service mill based on the RIIC dehuller. The milling system will be evaluated in terms of its technical, social and economic suitability; and its impact on the eating patterns and planting decisions of the tribal farmers.

/SORGHUM/ - /GRAIN PROCESSING/ /MILLING INDUSTRY/ /CONSUMER BEHAVIOUR/ /ENGINEERING DESIGN/
$93400 24 months
-SILVEIRA HOUSE, HARARE, ZW

82-0012 (AFNS)
VEGETABLE SEED (THAILAND) - PHASE I

Hilltribe farmers in Northern Thailand are among the poorest farmers in Thailand. Vegetable seed production appears to be a viable high-value crop for them. Since most farmers live far from any roads, any product they sell must have a high value per unit weight or volume to cover the high transportation costs. The development of acceptable vegetable seed production technology is seen as a means to increase the income of these farmers, and to improve the quantity and quality of vegetables grown in Thailand. This project will develop efficient management practices for vegetable seed production; screen new vegetable cultivars; develop an efficient vegetable seed processing procedure; produce certified seed of selected vegetables; and develop training materials and guidelines for training extension workers and farmers.

/SEEDS/ - /VEGETABLES/ /GENETIC IMPROVEMENT/ /SOIL FERTILITY/ /CULTIVATION PRACTICES/ /AGRICULTURAL EXTENSION/
$234100 36 months
-CHIANG MAI UNIVERSITY, CHIANG MAI, TH

82-0013 (AFNS)
INTERCROPPING (SWAZILAND) - PHASE II

In Swaziland, cereals, legumes, and cucurbits (gourds) are usually intercropped with maize, the chief crop and principal food. The emphasis in Phase I of this project was on increasing productivity of mixed cropping patterns, especially through the use of intercropping early and late maturing crops. In phase II, there will be a continuation of efforts to improve intercropping patterns through a program of selection of high-yielding and adapted crop mixtures. Research will be conducted on the aggressivity of a range of locally selected pumpkin varieties as intercrops, in relation to weed suppression and control; yield losses due to delayed or no weeding; fertilizer requirements; pest and disease problems; economic importance of crops in the farm enterprise; and influence of existing and improved cropping patterns on the social attitudes, beliefs and institutions of the samll farmer.

/INTERCROPPING/ /MAIZE/ /WEED CONTROL/ /GENETIC IMPROVEMENT/ /FERTILIZERS/ /PEST CONTROL/ /PLANT DISEASES/ /MARKETING/
$164800 24 months
-UNIVERSITY OF SWAZILAND, KWALUSENI, SZ

82-0014 (AFNS)
GROUNDNUT IMPROVEMENT (THAILAND) - PHASE I

Groundnut is an important food legume and oil crop in Thailand. Groundnut research in Thailand has been done mainly by the Department of Agriculture, Khon Kaen University, Kasetsart University and Chiang Mai University. This project will improve the productivity of groundnuts, and increase the efficiency of groundnut research through a national coordinated research program. Specifically, the project aims to develop improved varieties of groundnuts suitable for different cropping systems; improve production practices; and develop on farm seed selection and handling procedures.

/GROUNDNUTS/ - /GENETIC IMPROVEMENT/ /ORGANIZATION OF RESEARCH/
/CULTIVATION PRACTICES/ /SEEDS/
$356900 36 months
-KHON KAEN UNIVERSITY, KHON KAEN, TH
-KASETSART UNIVERSITY, BANGKOK, TH

82-0015 (AFNS)
ERYTHRINA (CATIE)

Leguminous plants are found throughout the world. Leguminous shrubs and trees are of increasing interest as a source of nitrogen for the fertilization or nursing of food and tree crops in the tropics. Among the major nurse legumes for plantation crops is the Erythrina genus. The objective of this project is to develop improved silvicultural and management techniques for the cultivation of Erythrina trees in association with various crops on small farms in Costa Rica. The project will survey existing practices by farmers and establish living collections of the most promising Erythrina species; quantify growth rates and biomass production of Erythrina poeppigiana and E. fusca; develop the most suitable planting techniques; and evaluate the biological nitrogen fixation of various Erythrina tree species.

/LEGUMINOSAE/ - /TREES/ /SILVICULTURE/ /AGROFORESTRY/ /CULTIVATION
PRACTICES/ /FERTILIZERS/
$389900 36 months
-CENTRO AGRONOMICO TROPICAL DE INVESTIGACION Y ENSENANZA (CATIE),
TURRIALBA, CR

82-0016 (AFNS)
INTERNATIONAL COUNCIL FOR RESEARCH IN AGROFORESTRY (ICRAF) - PHASE VI

Phase VI of this project will enable the International Council for Research in Agroforestry (ICRAF) to continue to sponsor and channel resources in agroforestry research and promote the adaptation, among developing countries, of the useful knowledge and systems derived form such research. For this phase of the project, ICRAF will focus on developing an understanding on the functions of agroforestry as land-use systems, and in so doing, build up a multi-disciplinary team of scientists.

/AGROFORESTRY/ - /ORGANIZATION OF RESEARCH/
$150000 12 months
-INTERNATIONAL COUNCIL FOR RESEARCH IN AGROFORESTRY (ICRAF), NAIROBI, KE

82-0017 (SS)
DEMOGRAPHIC RESEARCH (ZAIRE) - PHASE I

Zaire has never had a population census and available data from economic and demographic surveys are either partial or of uncertain quality. Information on social, economic and demographic circumstances and change is very deficient. This project will support field studies of population dynamics, and in so doing strengthen the research capacity of the Department of Demography, University of Kinshasa and foster staff training. Specifically, the project will collect and analyze new data on population dynamics (mortality, fertility and migration) in the city of Kinshasa and compare this new data with information from previous surveys; and develop new data collection methodologies.

/POPULATION DYNAMICS/ /SURVEYS/ /MORTALITY/ /FERTILITY/ /DEMOGRAPHIC ANALYSIS/ /DATA COLLECTING/
$380000 24 months
-UNIVERSITE DE KINSHASA, KINSHASA, ZR

82-0018 (SS)
SOCIAL DEMOGRAPHIC RESEARCH FOR PLANNING (ARGENTINA)

Beginning in 1976 Argentina experienced the onset of an economic recession and related policy changes which together had a dramatic downward effect on living conditions. The economic crisis led the central government to cut back on social services. This project will examine the population changes which accompanied these economic and policy changes. Specifically the project will develop a model of demographic change by province for Argentina over the period 1960 to the present. Current trends in relationships between social, economic and demographic variables will be analyzed in order to project short-term population changes. A methodology will be developed for assessing the implications of current population trends for social and economic planning at the national and provincial level.

/PLANNING/ - /POPULATION DYNAMICS/ /policy making/ /SOCIAL SERVICES/
$276000 36 months
-CENTRO DE ESTUDIOS DE POBLACION (CENEP), BUENOS AIRES, AR

82-0019 (AFNS)
OPTIMIZATION OF DEHULLER PRODUCTION (BOTSWANA)

The Rural Industries Innovation Centre (RIIC) dehullers have been placed with various cooperatives, rural development agencies and entrepreneurs throughout Botswana. Policymakers in Botswana are very satisfied with the positive impact of the dehuller on the processing of locally grown grains and food legumes in Botswana. The RIIC, through its parent organization Rural Industries Promotions (RIP) has proposed a technical follow-up of the dehuller now in operation in Botswana, in order to generate an optimal design and improved manufacturing procedures. The objectives of this project are to redesign the production model for the dehuller system and produce a full set of revised engineering drawings; make necessary improvements on the existing dehulling systems; and develop improved manufacturing procedures and quality control standards for the dehuller. A short refresher course for present mill operators will be conducted.

/GRAIN PROCESSING/ - /ENGINEERING DESIGN/ /MILLING INDUSTRY/ /QUALITY CONTROL/
$18084 12 months
-RURAL INDUSTRIES PROMOTION, GABORONE, BW

82-0021 (HS)
ICOMP/IDAP (LATIN AMERICA)

ICOMP (International Committee on the Management of Population Programmes) provides important inputs and training for staff of family planning programs in developing countries. The objectives of the committee are to improve the management of existing family planning and population programs, and to encourage the design and implementation of improved programs through the application of modern management concepts and techniques. This project will provide support for a population management evaluation project, as well as contribute towards support of the Secretariat and the development of a stable pool of management resources.

/FAMILY PLANNING PROGRAMMES/ - /management development/ /PROJECT EVALUATION/
$295000 24 months
-INTERNATIONAL COMMITTEE ON THE MANAGEMENT OF POPULATION PROGRAMMES (ICOMP), SELANGOR, MY

82-0022 (AFNS)
OYSTERCULTURE (JAMAICA) - PHASE II

The Government of Jamaica has identified aquaculture, and in particular oysterculture, as a means of increasing the available protein for consumption by rural Jamaicans and also for providing alternative or supplementary employment. Crassostrea rhisophora, the wild mangrove oyster, was selected as the species to be cultivated. During Phase I the essential evaluation of the biology of the mangrove oyster, was completed and the basic technology for growing oysters was developed. The main objective for Phase II is to develop a self-sustaining local industry of oysterculture production using local skills and locally-available materials. The project will determine the economic viability of oyster cultivation and the optimum production and processing system; develop the technical support facilities; and provide training for local extension officers and prospective oyster farmers.

/AQUACULTURE/ - /OYSTER CULTURE/ /SHELLFISH/ /CULTIVATION PRACTICES/ /FISHERY PRODUCT PROCESSING/ /MARKETING/ /AGRICULTURAL EXTENSION/
$199000 36 months
-MINISTRY OF AGRICULTURE, KINGSTON, JM

82-0024 (AFNS SPA)
FUELWOOD PRODUCTION AND CONSERVATION (HAITI)

The Government of Haiti faces a fuelwood shortage due to soil erosion and the absence of a fuelwood tree-planting tradition among farmers. This project aims to increase fuelwood supply by encouraging rural peasants to plant trees and to reduce demand by introducing efficient firewood and charcoal cooking stoves. Specifically the project will support fuelwood species trials; develop reforestation techniques suitable for small and large scale plantings; and develop and field test efficient firewood and charcoal cooking stoves appropriate to Haitian conditions.

/FUELWOOD/ - /REFORESTATION/ /TREES/ /PLANTING/ /CHARCOAL/ /STOVES/
$332400 48 months
-DEPARTEMENT DE L'AGRICULTURE, DES RESSOURCES NATURELLES ET DU DEVELOPPEMENT RURAL, PORT-AU-PRINCE, HT
-MINISTERE DES MINES ET DES RESSOURCES ENERGETIQUES, PORT-AU-PRINCE, HT

82-0025 (SS)

IMPACT OF URBAN PROJECTS ON CHILD MORTALITY: A REGIONAL RESEARCH PROGRAM (MIDDLE EAST)

The majority of the Arab countries in the Middle East are characterized by high levels of urbanization. Significant investments are being made by national governments and international agencies to cope with local needs generated by rapid urban growth. The general purpose of urban projects is to improve living conditions and basic urban services. This project will support the Middle East Awards Program in establishing a regional research program to evaluate the impact of urban projects on child mortality. Specifically, the project will promote an exchange of ideas and information; foster the development of conceptual and methodological tools for the evaluation of urban projects; support and coordinate three studies based on secondary analyses of existing data; and foster the development of concrete proposals for new evaluative studies.

/MORTALITY/ - /CHILDREN/ /URBANISM/
$125000 24 months
-POPULATION COUNCIL, NEW YORK, US

82-0026 (IS)

FOOD AND NUTRITION DOCUMENTATION CENTRE AT ORANA

The Organization for Food and Nutrition Research in Africa (ORANA) based in Dakar, Senegal, seeks to establish and staff a documentation centre to collect and disseminate information in French about food and nutrition in Africa. The project provides for the publication and distribution of a monthly accessions list and a specialized bibliography on characteristics of malnutrition. The documentation at ORANA covers child immunology, foetal nutrition, anemias, the etiology of endemic goitre, onchocerciasis, and nutritional survey results.

/DOCUMENTATION/ - /INFORMATION SERVICES/ /FOOD/ /NUTRITION/ /MALNUTRITION/
$105507 24 months
-ORGANISATION DE COORDINATION ET DE COOPERATION POUR LA LUTTE CONTRE LES GRANDES ENDEMIES EN AFRIQUE DE L'OUEST (OCCGE), BOBO-DIOULASSO, BF

82-0027 (SS)

INFORMAL URBAN EMPLOYMENT IN SERVICES (BOGOTA)

Informal services are one of the most important sources of employment in Colombian cities providing the main and often only source of income for a large proportion of households. The general objective of this project is to provide a greater understanding of the importance of informal services in the employment of Bogota, and to make policy recommendations. The project will examine national, departmental and municipal legislation, policies and programs regarding the informal sector, particularly the informal services sub-sector; provide information on the social, economic, political and organizational characteristics of the sub-sector; and make policy recommendations with respect to improving the working conditions, income and upward mobility within the sub-sector.

/EMPLOYMENT/ - /INFORMAL SECTOR/ /LEGISLATION/ /WORKING CONDITIONS/ /VENDORS/
$92500 15 months
-SERVICIO NACIONAL DE APRENDIZAJE (SENA), BOGOTA, CO

82-0028 (IS)
CHILDREN'S LITERATURE (COLOMBIA)

Much of the effort to improve the school libraries of Colombia is wasted as money is often spent on books that are not used. The ultimate goal of this project is to identify and integrate into the school system a teaching method that not only results in the child's being able to read properly byt fasters personal enjoyment of the skill. The project will develop and test the necessary research instruments, and provide a documentation centre (laboratory) on children's literature that will permit the study of methods for teaching children reading skills and habits.

/READING/ - /TEACHER TRAINING/ /INFORMATION SERVICES/ /TEACHING METHODS/ /LITERATURE/ /CHILDREN/ /LIBRARIES/ /BIBLIOGRAPHY/
$196680 36 months
-EMPRESA COLOMBIANA DE PRODUCCION Y DISTRIBUCION DE BIENES CULTURALES (PROCULTURA), BOGOTA, CO

82-0029 (IS)
BARBADOS LIBRARY, ARCHIVE AND INFORMATION CENTRE NETWORK (BLAIN)

The Government of Barbados has established a plan for a comprehensive national information system. This project will assist in the establishment of the Central Directorate of the Barbados Library, Archives, and Information Centres Network (BLAIN). The specific objectives of the project are to establish the Central Directorate which will coordinate the development of BLAIN; to develop two central technical units (acquisition and cataloguing, and binding and microfilming); to introduce automated procedures; to improve library services; to support staff training; and to create a data base of locally produced reports and locally held serials, and produce a Barbados National Bibliography and a Union List of Serials.

/INFORMATION SYSTEMS/ - /INFORMATION SERVICES/ /BIBLIOGRAPHY/
$296400 24 months
-MINISTRY OF INFORMATION, ST. MICHAEL, BB

82-0030 (IS)
PUBLIC ADMINISTRATION INFORMATION (LATIN AMERICA AND THE CARIBBEAN) - PHASE I

Developing countries recognize the need for a strong infrastructure in the management and administration of governmental programs and activities. In this light, IDRC is providing funds for the Latin American Centre (CLAD) to strengthen its Documentation Centre and establish an information network on Public Administration for Latin America and the Caribbean. The information network will establish mechanisms for the bibliographic control of documents generated in Public Administration; contribute to the transfer of knowledge in this area; participate in other regional and sub-regional information networks; and maintain a close relationship with international networks and centres concerned with the same theme in order to exchange information and services for the betterment of the network.

/PUBLIC ADMINISTRATION/ - /INFORMATION NETWORK/ /INFORMATION SERVICES/
$105200 24 months
-CENTRO LATINOAMERICANO DE ADMINISTRACION PARA EL DESARROLLO (CLAD), CARACAS, VE

82-0031 (SS)
COMMUNITY PRODUCTIVITY (ZAIRE)

Despite enormous mineral wealth in Zaire, agriculture is still the economic base of the country. In recent years food production has stagnated. Not much is known about traditional communal farming in Zaire except that it influences agricultural production (by controlling resources such as land, water and capital) and distribution of products. Researchers will study both individual and communal agricultural production in eight villages in different climatic zones in Zaire. Data will be collected on production, productivity, revenue, household budgets and harvesting techniques.

/FARMING SYSTEMS/ - /AGRICULTURAL PRODUCTION/
$47000 18 months
-CENTRE INTERDISCIPLINAIRE POUR LE DEVELOPPEMENT ET L'EDUCATION PERMANENTE, KINSHASA, ZR

82-0032 (SS)
TECHNOLOGY POLICY STUDIES (EAST AFRICA)

The countries of Eastern Africa are experiencing serious economic difficulties. In part, failures in technology policy have been seen as important roots of the present economic crisis. This project aims to provide a mechanism to support a number of small research initiatives in technology policy in selected countries of Eastern Africa, and strengthen these research efforts through a regional network. Specifically, the project will promote local technological capacities; improve the bargaining abilities of Eastern African governments in dealing with overseas suppliers of technology; expand agricultural production by improving the transfer of technological knowledge to small-holder farmers; evaluate the appropriateness of technology choices that have been made; and contribute to the development of existing national technology policy institutions.

/science policy/ - /INSTITUTION BUILDING/ /DECISION MAKING/ /TECHNOLOGY TRANSFER/ /APPROPRIATE TECHNOLOGY/
$436000 24 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

82-0033 (IS)
MULTIPERIOD BUDGETING - PERENNIAL CROPS (MULBUD) - PHASE I

The Multiperiod Budgeting and Economic Assessment of Perennial Crop Intercroppig Systems (MULBUD) interactive microcomputer software is a tool for synthesizing basic information on tree crop intercropping systems. This project will enable the International Council for Research on Agroforestry (ICRAF), in collaboration with the Australian National University (ANU), to further develop MULBUD as a suitable tool for obtaining more basic economic data on intercropping of perennial tree crops. Specifically, the project will support the documentation and dissemination of an interactive computer package designed and developed at ANU for information on tree cropping systems for smallholders; the expansion and adaptation of the original package to accommodate wider agroforestry applications; and the development of ICRAF's in-house modelling capabilities with microcomputers.

/COMPUTER PROGRAMMES/ - /AGROFORESTRY/ /TREES/ /INTERCROPPING/
$93814 12 months
-INTERNATIONAL COUNCIL FOR RESEARCH IN AGROFORESTRY (ICRAF), NAIROBI, KE

82-0034 (SS)

RURAL DEVELOPMENT, FAMILY AND DEMOGRAPHIC BEHAVIOUR (MEXICO)

In recent years Mexico has been experiencing rapid growth; it has had one of the most dramatic increases in industrialization and urbanization in Latin America. One of the areas of the country most affectd by rapid development and population growth is the "zone" of la Chontalpa in the state of Tabasco. The objectives of this project are to describe the conditions prevailing in the zone of la Chontalpa; to study variation in the socioeconomic and demographic characteristics of families living in different kinds of productive organization; and to evaluate the impact of government policies on household demographic conduct. The project will contribute to the understanding of the impact of rural development policies on the fertility, mortality and migration behaviour of rural Mexican families.

/RURAL DEVELOPMENT/ - /POPULATION DYNAMICS/ /FAMILY PLANNING/ /DEVELOPMENT POLICY/
$93000 16 months
-INSTITUTO MEXICANO DE ESTUDIOS SOCIALES (IMES), MEXICO, MX

82-0035 (HS)

SEXUALLY-TRANSMITTED DISEASES (THAILAND)

Gonorrhea is a sexually-transmitted infection that is posing an increasing problem worldwide. Rural populations in developing countries are particularly vulnerable due to the lack of an appropriate health delivery infrastructure. It is essential to develop effective control measures and reliable screening programs for sexually-transmitted diseases: this project will develop the appropriate gonorrhea control module applicable to rural Thailand. Screening, diagnosis and management of gonorrhea and tracing contacts in the rural population will be aspects of any such module.

/VENEREAL DISEASES/ - /DISEASE CONTROL/ /HEALTH SERVICES/
$85600 24 months
-MINISTRY OF PUBLIC HEALTH, BANGKOK, TH

82-0036 (SS)

URBAN INTERHOUSEHOLD TRANSFERS (PAPUA NEW GUINEA)

Interhousehold transfers of income and goods have benefitted the urban poor. This informal redistributive system has been instrumental in minimizing inequalities inherent in the system of subsistence production. These transfers act as a sort of social security system reducing inequality and caring for the poor. The objective of this project is to describe and analyze the nature, magnitude and consequences of interhousehold transfers in selected cities in Papua New Guinea. Specifically, the project will analyze transfers of cash goods across urban households in non-market relationships; examine the redistributive pattern of interhousehold transfers in relation to total incomes, geographical location, ethnic origin and social ties; determine the effect of interhousehold transfers on lowest-income households; and understand the determinants of the transfers though the variables of social ties, age group and physical location.

/URBAN SOCIOLOGY/ - /HOUSEHOLD/ /NEIGHBOURHOOD/ /KINSHIP/ /SELF-HELP/
$56700 16 months
-PAPUA NEW GUINEA INSTITUTE OF APPLIED SOCIAL AND ECONOMIC RESEARCH, BOROKO, PG

82-0037 (IS)
MANAGEMENT OF INFORMATION CENTRES - CHINA

The Chinese have placed a high priority on the provision of information services to their scientists as part of their overall modernization plans. This project aims to strengthen China's capability to improve information services in the general area of science and technology by instructing senior personnel in practical information management methods. The training course will provide participants with enough fundamental knowledge of modern information procedures to help improve their work and pass the experience on to others; increase their ability to grasp the principles of scientific management; increase their awareness of developments outside China in the sphere of information management; and improve their decision-making abilities.

/INFORMATION SERVICES/ - /MANAGEMENT DEVELOPMENT/ /TRAINING COURSES/
/SCIENTIFIC INFORMATION/ /TECHNICAL INFORMATION/
$72610 12 months
-INSTITUTE OF SCIENTIFIC AND TECHNICAL INFORMATION OF CHINA (ISTIC), BEIJING, CN

82-0038 (SS)
RURAL-URBAN MOBILITY AND EMPLOYMENT (SOUTHEAST ASIA)

It has been increasingly recognized that the movement of poor, jobless people from the countryside to the city in Southeast Asia poses major threats to the achievement of economic and social goals. This study will examine population mobility and employment characteristics of differing sized intermediate cities in Indonesia and the Philippines. The emphasis will be on short-term, rural-urban population transfers and the effect related to informal sector opportunities. Researchers will inventory and document the extent and nature of both formal and informal activities in the cities; analyze long-term and short-term migration/circulation of population between each of the cities and the surrounding rural areas; and assess the transport system in each city and its effect on population movement.

/POPULATION TRANSFERS/ - /INTERNAL MIGRATIONS/ /INFORMAL SECTOR/
/OCCUPATIONAL MOBILITY/ /RURAL MIGRATIONS/ /URBAN TRANSPORT/
$94200 24 months
-UNIVERSITY OF NORTH SUMATRA, MEDAN, ID
-XAVIER UNIVERSITY, CAGAYAN DE ORO CITY, PH

82-0039 (HS)
SOIL-TRANSMITTED HELMINTHS (INDONESIA)

Soil-transmitted helminths (parasites) and various species of hookworm still pose serious public health problems in most developing countries. In Indonesia, the prevalence of these parasites is relatively high due to poor sanitary conditions and the tropical climate. It has been shown that repeated mass drug treatment will reduce prevalence rates and the degree of infection, but reinfection often occurs within three months due to poor sanitation. The objective of this project is to assess the effect of an appropriate health education program and improved water supply and latrine facilities on reducing reinfection rates and the degree of soil-transmitted helminthic infections in rural areas of Indonesia. Researchers will improve and monitor the conditions and use of wells and latrines, and attempt to encourage villagers to modify personal hygiene and habits.

/PARASITIC DISEASES/ - /SANITATION/ /HEALTH EDUCATION/ /WATER SUPPLY/
$47600 24 months
-GADJAH MADA UNIVERSITY, YOGYAKARTA, ID

82-0040 (SS)

DEMOGRAPHIC IMPACT OF AGRICULTURAL MODERNIZATION (ZAMBIA)

Agricultural modernization is assumed to affect demographic variables, such as fertility, migration and death rates, in several ways. Phase I of this project will increase the understanding of the relationship between agricultural modernization and demographic change at the household level in Zambia. Phase I will collect primary data on the organization, social, economic and demographic aspects of households engaged in different forms of agricultural production. Hypotheses will be developed regarding the relationship between different forms of agricultural production and household organization, production and income; and the relationship between household organization/production/income and demographic variables. Also within phase I, a study will be designed to test selected hypotheses in a more comprehensive study of agricultural development-demographic interrelations in several regions of Zambia.

/POPULATION DYNAMICS/ - /AGRICULTURAL DEVELOPMENT/ /DEMOGRAPHIC ANALYSIS/
$29400 8 months
-UNIVERSITY OF ZAMBIA, LUSAKA, ZM

82-0042 (SS)

INTERNATIONAL MIGRATION (SAINT VINCENT)

Saint Vincent is a small territory at the lower end of the Caribbean chain of the Windward Islands. As a result of poor economic conditions and few employment opportunities, Saint Vincent has traditionally been characterized by high levels of emigration. The objective of this project is to analyze the determinants of migration from Saint Vincent to Trinidad and the United States (New York), and to assess its social and economic impact at the household level in Saint Vincent. Specifically, the project will analyze the characteristics and motivations of migrants; and assess the social and economic impact of migration on the sending households, particularly with respect to the magnitude of remittances in cash and kind, and their utilization for consumption and investment.

/EMIGRATION/ - /EMIGRANTS/ /MOTIVATIONS/
$39000 9 months
-MINISTRY OF EDUCATION, KINGSTOWN, VC

82-0043 (SO)

LAW AND BIOTECHNOLOGY

Biotechnology has been defined as the collection of industrial processes that involve the use of biological systems. Biotechnological research has been done in such widely diverse fields as medicine, agriculture, pollution control and mineral extraction. Biotechnology is emerging as a factor in modern life largely in a legal vacuum. It is important for developing countries to begin to address the questions of which laws and regulations will be needed to ensure that an appropriate legal framework exists to govern the introduction or production of biotechnologies. The objectives of this project are to set out the legal alternatives open to developing countries in dealing with the question of property rights to biotechnologies; to recommend contractual arrangements governing the development or marketing of biotechnologies; and to review the laws which could b used to ensure the safe development of biotechnologies in developing countries.

/SCIENTIFIC PROGRESS/ - /LEGISLATION/ /PATENTS/ /PATENT LAW/ /TECHNOLOGY/
$158700 24 months
-INTERNATIONAL CENTRE FOR LAW IN DEVELOPMENT (ICLD), NEW YORK, US

82-0044 (SS)
RURAL DEVELOPMENT, BANDUNDU (ZAIRE)

Zaire has great potential for agricultural development due to its rich land resources. But it has suffered a decline in agricultural production and is experiencing high food prices. There has been little research into the systems of food production and marketing in Zaire. This study will focus on the socioeconomic structure and the means of agricultural production in the region of Bandundu, one of the principal food-producing areas of Zaire. Researchers will look closely at farming systems, cultivation techniques, marketing, traditional organizations, agricultural inputs, manpower requirements, postharvest systems, and demographic structures.

/AGRICULTURAL PRODUCTION/ - /RURAL DEVELOPMENT/ /FARMING SYSTEMS/
$74000 24 months
-INSTITUT DE RECHERCHE SCIENTIFIQUE (IRS), KINSHASA, ZR

82-0045 (SS)
FOOD MARKETING (COLOMBIA)

In Colombia rapid population growth and urban migration have led to an increasing dependency of the urban poor on food marketing systems to provide them with food. However, many of Colombia's rural areas have poor marketing systems, with low productivity being most noticeable among fruit and vegetable growers. It is the intention of this project to describe and analyze the structure of the marketing chain for a selected group of four fruits and vegetables produced in two regions, Boyaca and Santandes del Sur, that supply the Bogota market, to determine if marketing margins can be reduced so as to increase farmers' incomes and/or reduce prices for poor urban consumers. Sample surveys and interviews of small farmer producers, transporters, processors, wholesalers, retailers, and poor urban consumers will be undertaken to analyze the present efficiency of the marketing system.

/AGRICULTURAL MARKET/ - /MARKETING/ /SUPPLY AND DEMAND/ /FRUITS/
/VEGETABLES/ /CONSUMER PRICES/
$91000 12 months
-FUNDACION PARA EL FOMENTO DE LA INVESTIGACION CIENTIFICA Y TECNOLOGICA (FICITEC), BOGOTA, CO

82-0046 (SS)
SCHOOL AND COMMUNITY (BOLIVIA) - PHASE II

The overall objective of this project has been to examine the teaching process and the effects of teaching upon student learning with particular focus on the problem of pupil failure. Research has been conducted in phase I of this project on the complex relationships which exist within and between the classroom and the home, and among teachers, pupils, and parents. The interface between school and community, and between teachers and their students has been examined in Bolivia. The objectives of phase II are to discover whether and how the school can create and extend the social and cultural well-being of its students; and to describe more fully the view of the school held by parents and teachers so that both groups can work together to make the school a centre for cultural development, social organization, and popular education.

/TEACHING/ - /LEARNING/ /SCHOOL-COMMUNITY RELATIONSHIPS/ /TEACHER-STUDENT RELATIONSHIPS/
$66500 12 months
-CENTRO BOLIVIANO DE INVESTIGACION Y ACCION EDUCATIVAS (CEBIAE), LA PAZ, BO

82-0047 (AFNS)
POSTHARVEST TECHNOLOGY (INDIA) - PHASE II

Postharvest technology research (storage and processing techniques of food crops) in India has focused on large producers of grain, processors, and grain merchants. This project has sought to address the needs of the small farmers and the small rural communities by devising postharvest systems that reduce losses and improve processing, distribution, quality, and availability of cereal grains, food legumes, and oilseeds produced on small farms throughout India. Phase I has shown considerable success, with new technologies tested within the project now being actively used by the farmer. Phase II will continue work begun in the first phase on post-production systems and their technological components as applied to several cereal, legume and oilseed crops.

/post-harvest systems/ - /DRYING/ /STORAGE/ /ENGINEERING DESIGN/ /GRAIN PROCESSING/ /AGRICULTURAL MACHINERY/
$285899 33 months
-INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR), NEW DELHI, IN

82-0048 (HS)
LUNG CANCER (HONG KONG)

Cancer is a major killer in both developing and developed countries. In Hong Kong lung cancer is the most common cause of cancer-associated deaths in both males and females; and the death rate for lung cancer in women is said to be the highest in the world. The general objective of this project is to investigate some of the causal factors of primary lung cancer in nonsmoking Chinese women in Hong Kong. The results of this project should help clarify the situation regarding the high incidence of this condition in Chinese women in Hong Kong.

/CANCER/ - /EPIDEMIOLOGY/ /CHINESE/ /WOMEN/
$43340 24 months
-UNIVERSITY OF HONG KONG, HONG KONG, HK

82-0049 (SS)
UNIVERSITIES AND THE ROLE OF INTELLECTUALS IN SOCIETY (CHILE)

Over the past nine years the Chilean cultural situation in generl and the educational environment in particular have been significantly affected by a series of social and cultural changes. The universities' role has been affected by these changes and likewise the role of intellectuals in the university system and in Chilean society. The objectives of this project are to study the changes that have taken place n the professional environment of intellectuals in Chilean universities between 1973 and 1981; analyze how these changes have affected the role of intellectuals, including their functions in society at large; and analyze changes in the professional marketplace for intellectuals and its implications.

/INTELLECTUALS/ - /UNIVERSITIES/ /SOCIAL ROLE/ /SOCIAL CHANGE/
$43500 12 months
-FACULTAD LATINOAMERICANA DE CIENCIAS SOCIALES (FLACSO), SANTIAGO, CL

82-0050 (SS)

EDUCATION AND SOCIAL STRUCTURE; ACTORS AND PROCESSES IN THE EDUCATION SYSTEM (CHILE) - PHASE I

The Interdisciplinary Program for Research in Education (PIIE) is one of the most prestigious Chilean research centers working in education. This project will provide funds to enable PIIE to conduct research on educational problems in Chile and to develop participatory and democratic educational alternatives. Specifically the project will examine the relationships between social inequality and education under the present political regime; long range effects of government policies on the role of teachers and the conditions under which they work; and the degree of participation of teachers and students in the formulation of alternatives for educational change. An integrated training program for junior researchers and social scientists will compliment ongoing research activities.

/EDUCATIONAL POLICY/ - /SOCIAL STRUCTURE/ /TEACHERS/ /STUDENTS/ /EDUCATIONAL INNOVATIONS/ /EDUCATIONAL OPPORTUNITIES/
$94700 12 months
-PROGRAMA INTERDISCIPLINARIO DE INVESTIGACIONES EN EDUCACION (PIIE), SANTIAGO, CL

82-0051 (SS)

SOCIOECOFOMIC IMPACT OF TOURISM (SENEGAL)

For more than a decade tourism has played an important role in the Senegalese economy. This has led to a growth in foreign investment, an influx of foreign currency, and a reduction in the number of imports. However, tourism can have a negative effect on the social environment and a clear policy must be set by the government. This study seeks to evaluate the current and long-term socioeconomic effects of tourism on Senegal. Data will be collected on the number and kind of tourists who flock to the southwestern regions, as well as their activities and type of interaction with the local population.

/TOURISM/ - /ECONOMIC IMPLICATIONS/ /SOCIAL IMPLICATIONS/
$13400 12 months
-UNIVERSITÉ DE DAKAR, DAKAR, SN

82-0052 (SS)

NON-TARIFF BARRIERS TO TRADE (ASEAN)

The Association of Southeast Asian Nations (ASEAN) is committed to expanding trade among its member countries. To date tariff reductions have not been sufficiently extensive to have had a substantial effect on intra-ASEAN trade. And, research reveals that non-tariff barriers (NTB's) have become increasingly important in preventing the expansion of trade. Such barriers can include quotas, licenses, subsidies, etc. Attempts to quantify the impact of NTB's on intra-ASEAN trade have been seriously hampered by the absence of information concerning their nature and incidence, both by product and country. This project will develop a data base on NTB's through the systematic collection, verification, and classification of primary and secondary data. Researchers will collect data on the perceptions of importers and exporters regarding NTB's, and compare these perceptions with those of government departments responsible for imposing these barriers.

/TRADE BARRIERS/ - /TRADE RELATIONS/ /TRADE DEVELOPMENT/ /INTERNATIONAL TRADE/
$29700 18 months
-INSTITUTE OF SOUTHEAST ASIAN STUDIES (ISEAS), SINGAPORE, SG

82-0053 (HS)
SANITARY EDUCATION (SENEGAL)

Improving basic sanitation and personal hygiene can prevent many common diseases. The intention of this project is to educate the villagers of NGoundiane of Senegal in matters concerning the hazards associated with poor sanitation and provide the appropriate guidance in the construction and maintenance of wells, latrines and solid waste disposal facilities. The project will develop a village-level health education program; evaluate the utilization of water supply, sanitary and waste disposal facilities and their impact on environmental conditions; and provide training opportunities for students at the National School of Sanitary Engineering.

/HEALTH EDUCATION/ - /SANITATION SERVICES/
$60350 12 months
-MINISTERE DE L'AMENAGEMENT HYDRAULIQUE, DAKAR, SN

82-0054 (HS)
RURAL SANITATION (SIERRA LEONE) - PHASE I

The link between health and sanitation has been established. If communities in developing countries could be motivated through education programs to improve personal hygiene and sanitation practices, a reduction in the incidence of disease should result. Three villages in the southern province of Sierra Leone have been selected to undertake a demonstration project, based on community involvement and self-help. The objectives of the project are to provide basic health education to village leaders; construct nine improved pit latrines and nine protected wells in the three villages; demonstrate the proper use and maintenance of the improved water supply and sanitation facilities; and monitor and evaluate changes in behaviour as related to water use and excreta disposal.

/SANITATION/ - /WATER SUPPLY/ /HEALTH EDUCATION/ /BEHAVIOUR/ /ATTITUDES/
$61450 18 months
-COMMUNITY DEVELOPMENT COUNCIL, BO, SL

82-0055 (SS)
FINANCIAL MARKETS AND INFLATION (ARGENTINA) - PHASE I

The Argentinian Government enacted financial reforms in 1977 designed to stimulate economic growth through liberalization of the country's financial market. The overall objective of this project is to conduct a detailed analysis of the Argentinian financial market since the introduction of these reforms. Researchers will develop a model of the financial system, investigate the relationship between real interest rates and investment patterns over time, and use models of the financial system to examine the effects of policies implemented under controlled and open market conditions.

/FINANCIAL MARKET/ - /ECONOMIC THEORY/ /MODELS/ /INTEREST RATE/
/INVESTMENTS/ /INFLATION/ /FINANCIAL POLICY/
$55300 18 months
-CENTRO DE ESTUDIOS DE ESTADO Y SOCIEDAD (CEDES), BUENOS AIRES, AR

82-0056 (SS)

MACROECONOMIC RESEARCH (BRAZIL) - PHASE I

Brazil, in common with many Latin American countries, is confronting major economic difficulties with the rate of growth having declined and the country experiencing annual inflation in excess of 70 percent. Research on Brazil's economic policy is especially important as the country's policymakers are confronting a series of difficult policy choices on income distribution, prices, growth and balance of payments. This project will support the development of an economic policy model that will integrate the results of various theoretical and applied studies on prices, wages, the balance of payments and public expenditure, to be undertaken by the Economics Department of the Pontifical Catholic University of Rio de Janeiro.

/ECONOMIC POLICY/ - /MACROECONOMICS/ /ECONOMIC MODELS/
$44000 15 months
-PONTIFICIA UNVERSIDADE CATOLICA DO RIO DE JANEIRO, RIO DE JANEIRO, BR

82-0057 (SS)

EXTERNAL POLICY AND ECONOMIC GROWTH (BRAZIL)

The past two decades have marked major changes in the structure of Brazil's economy and its external economic ties. Since 1970 Brazil's foreign policy has been based increasingly on a pragmatic assessment of the country's economic interests. However, conflicts can arise between foreign policy aims and economic interests. The objective of this project is to collect and catalogue existing information relating to Brazil's economic and diplomatic activities as a first step towards a systematic analysis of Brazil's external economic policies. Information on trade, capital movements, debt and Brazilian foreign investment will be collected as well as information concerning Brazil's external policy. In the course of collecting this information, the researchers will identify areas of actual or potential conflict between Brazil's economic and external interests.

/ECONOMIC RELATIONS/ /FOREIGN POLICY/ /BALANCE OF TRADE/ /CAPITAL MOVEMENTS/ /indebtedness/ /FOREIGN INVESTMENTS/
$56000 12 months
-PONTIFICIA UNIVERSIDADE CATOLICA DO RIO DE JANEIRO, RIO DE JANEIRO, BR

82-0058 (HS)

WATER AND SANITATION FILM (ASIA)

There is a need in developing countries to relate the use of contaminated water supplies and poor sanitation practices to health conditions. This project will support the production of a film, that will establish a link between poor water and sanitation practices and the child with diarrhea: the purpose of this film is to raise the awareness of government personnel and others responsible for planning and implementing water and sanitation and public health programs in developing countries of the poor sanitation-disease link.

/WATER SUPPLY/ - /SANITATION/ /FILMS/
$85949 9 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

82-0059 (AFNS)
MUSTARD (INDIA) - PHASE II

Mustard is an important oilseed crop in the North Indian plains with the highest yield potential of all oilseeds. The objectives of phase I of this project were to breed types of mustard suitable for low rainfed and limited irrigation areas, and suitable for intercropping with wheat, barley, or food legumes; and to develop stronger resistance to drought, insects, and downy mildew. Satisfactory process has been made during phase I. The second phase represents a continuation and development of the first phase, with the same objectives.

/OILSEEDS/ - /PLANT BREEDING/ /GENETIC IMPROVEMENT/ /CULTIVATION PRACTICES/ /INTERCROPPING/ /WHEAT/ /BARLEY/ /LEGUMINOSAE/
$125100 26 months
-INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR), NEW DELHI, IN

82-0060 (AFNS)
RAPESEED (INDIA) - PHASE II

In India, there is a great need for increased oilseed production, since this important food source is in short supply. In phase I of this project research efforts were concentrated on Brassica campestris (rapeseed). The objectives were to breed high-yielding, disease-resistant, pest-tolerant, and widely adaptable varieties; to develop rapid maturing varieties with high yield; and to develop suitable agronomic practices for the different agroclimatic zones. In the first phase, a dwarf plant type and a male-sterile have been discovered and put to use; and some valuable short-term types have also been developed. The second phase of the project represents a continuation and development of the first phase, with the same objectives.

/rapeseed/ - /PLANT BREEDING/ /GENETIC IMPROVEMENT/ /HYBRIDIZATION/ /CULTIVATION PRACTICES/
$153600 26 months
-INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR), NEW DELHI, IN

82-0061 (AFNS)
SAFFLOWER (INDIA) - PHASE II

Safflower (Carthamus Tinctorius) is an important oilseed crop in India and is well suited to many rainfed areas of the semi-arid tropics. In India safflower is popular as a cooking oil. Phase I of this project sought to develop high-yielding and disease-resistant varieties of safflower; to improve, by hybridization and selection, the best variety available; and to develop optimum agronomic practices. The first phase has generated some good varieties now under field testing. The second phase represents a continuation and development of the first phase, with the same objectives.

/OILSEEDS/ - /PLANT BREEDING/ /GENETIC IMPROVEMENT/ /HYBRIDIZATION/ /CULTIVATION PRACTICES/ /CROP YIELD/ /ARID ZONE/ /AGRICULTURAL EXTENSION/
$145800 26 months
-INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR), NEW DELHI, IN

82-0062 (AFNS)
SESAME (INDIA) - PHASE II

Sesame is the second major oilseed crop produced in Southern India; only groundnuts are produced in greater quantity. In phase I of this project, researchers sought to develop a short-duration sesame variety for monsoon areas, to develop a long-duration variety for dry areas, to improve the yield of new varieties developed, and to develop resistance to pests and diseases in all new varieties. As a result of phase I, a large collection of germplasm has been obtained, maintained and screened, good sesame types identified and crosses made. Phase II will expand and dvelop this work, and undertake farmer testing of the new varieties now being developed.

/OILSEEDS/ - /PLANT BREEDING/ /GENETIC IMPROVEMENT/ /HYBRIDIZATION/ /DROUGHT/ /ARID ZONE/ /CROP YIELD/ /AGRICULTURAL EXTENSION/
$149800 24 months
-INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR), NEW DELHI, IN

82-0063 (FAD)
FORESTRY RESEARCH COURSE

There is, in the developing world, a serious shortage of qualified and experienced forest research workers. The object of this project is to sponsor a research training course for forestry research workers in East Africa. The course will familiarize trainees with the principles and practice of forest research methods with emphasis on wood production rather than utilization. The major part of the course will be concerned with design, measurement and analysis of forestry experiments, including sampling techniques and evaluation.

/FORESTRY RESEARCH/ - /TRAINING COURSES/ /WOOD PRODUCTION/
$72250 4 months
-UNIVERSITY OF DAR ES SALAAM, MOROGORO, TZ

82-0065 (SS)
AGRICULTURAL DEVELOPMENT (CHILE) - PHASE II

The overall objective of this project has been to study the impact of open market policies introduced in Chile since 1974 on agricultural development and change. Phase I of this project assessed the effects on agricultural production of changes in agricultural policies. Considerable amounts of micro-economic data at the farm level were collected from 300 small farm households in phase I. Phase II will analyze this data to determine the economic and social adjustments made by small farmers, pointing out production trends, employment and income. Research will be conducted on the impact of traditional and non-traditional (quality of education, use of improved technology, availability of technical assistance) inputs on agricultural production.

/AGRICULTURAL POLICY/ - /AGRICULTURAL PRODUCTION/ /ECONOMIC POLICY/ /EMPLOYMENT/ /INCOME DISTRIBUTION/
$74600 18 months
-PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE, SANTIAGO, CL

82-0066 (SS)
KNOWLEDGE TRANSMISSION IN PEASANT COMMUNITIES (BRAZIL)

A significant educational development in Latin America during the last 10 years has been the emergence of non-formal education programs addressed to adults of marginal populations. These programs have become known as "popular education" because of their orientation toward the common people. Popular educators are hampered in their work because of their limited understanding of the communities they serve. This project is based on the premise that popular educators will become more effective if they understand how popular knowledge is transmitted among community members. It is therefore the intention of this project to conduct an in-depth ethnographic study in Brazil of the social structures, processes and settings in which popular knowledge is embedded and transmitted in three rural communities with different levels of formal education development.

/COMMUNICATION/ - /TRADITIONAL CULTURE/ /SOCIAL STRUCTURE/ /RURAL COMMUNITIES/ /NON-FORMAL EDUCATION/ /SOCIAL PARTICIPATION/
$27000 18 months
-CENTRO ECUMENICO DE DOCUMENTACAO E INFORMACAO (CEDI), RIO DE JANEIRO, BR

82-0067 (SS)
TEACHER EFFICACY IN URBAN MARGINAL SCHOOLS (CHILE)

Student failure continues to be a major problem within the educational systems of developing countries. Teachers' behaviours in the instructional and administrative control of the classroom can have serious repercussions on student outcomes. The general objective of this project is to identify the pattern of classroom practices, and attitudes and expectations toward student learning that distinguish effective teachers from those who are less effective, in 50 primary schools in marginal urban areas of Santiago, Chile. Specifically the project will identify and compare the attitudes toward student learning; study the relationship between teacher attitudes and expectations and actual teacher practices; examine students' perceptions of the classroom environment; and study the relationship between student academic performance and affective development.

/TEACHERS/ - /ATTITUDES/ /LEARNING/ /TEACHING PRACTICE/ /TEACHER-STUDENT RELATIONSHIPS/
$31200 6 months
-CENTRO DE INVESTIGACION Y DESARROLLO DE LA EDUCACION (CIDE), SANTIAGO, CL

82-0068 (SS)
EDUCATIONAL REFORM (ZAIRE)

In many African countries the educational systems are still patterned after colonial models. Teaching methods at every level still reflect the European tradition and are not suitable for Africans. In Zaire there is a very high failure rate for students and six major educational reforms since 1961 have not brought significant change to the system. This project will support the research and publication of a work on the history of these reforms and why they failed. The study will review reforms in primary, secondary and higher education in Zaire from 1880 until 1980.

/EDUCATIONAL REFORMS/ - /EDUCATIONAL SYSTEMS/
$17000 18 months
-INSTITUT DE RECHERCHE SCIENTIFIQUE (IRS), KINSHASA, ZR

82-0069 (AFNS)
TREE SEED IMPROVEMENT (ECUADOR)

The shortage of wood in Ecuador has encouraged afforestation in the country over the past 25 years. Virtually all Ecuador's actual and planned plantations are concentrated in the inter-Andean zone, and are composed of two species, Eucalyptus globulus and Pinus radiata. The poor quality and unknown genetic make-up of the seed of these two species is the greatest technical weakness in the present and proposed planting program. The objective of this project is to improve the physical quality, and genetic suitability of the seed of Eucalyptus globulus and Pinus radiata, and ensure the efficient collection, storage, and distribution of the seed. Researchers will also investigate and test vegetative propagation and controlled fertilization techniques for use in a future tree breeding and improvement program.

/SILVICULTURE/ - /TREES/ /SEEDS/ /AFFORESTATION/ /GENETIC IMPROVEMENT/
$174900 36 months
-ECUADOR. MINISTERIO DE AGRICULTURA Y GANADERIA, QUITO, EC

82-0070 (SS)
POSTGRADUATE STUDIES IN LATIN AMERICA (VENEZUELA)

An important change of the past two decades in Latin American higher education systems has been the increase in the number of postgraduate programs offered by universities in the region. The purpose of this project is to examine postgraduate education in Latin America by studying a selected number of postgraduate programs in four countries: Brazil, Colombia, Mexico and Venezuela. In each of these cases, types of postgraduate studies, their evolution, their characteristics and role will be analyzed. Researchers will examine the effects of these programs on the professional and social environment in each country; and analyze the local socioeconomic and educational environments acting upon higher education systems, and foreign influences affecting the institutional development of postgraduate programs. A comparative analysis will be presented.

/HIGHER EDUCATION/ - /UNIVERSITIES/ /EDUCATIONAL ADMINISTRATION/
/PROFESSIONALS/
$93300 20 months
-CENTRO REGIONAL PARA LA EDUCACION EN AMERICA LATINA Y EL CARIBE (CRESALC),
CARACAS, VE

82-0071 (HS)
ORAL REHYDRATION (TRINIDAD) - PHASE II

The primary cause of diarrhea-related mortality in children is dehydration. Oral rehydration is a simple, effective, and economical method that can prevent and treat secondary effects of diarrhea through administration of a glucose-electrolyte (GESOL) mixture in a drink form. The overall objective of this project has been to expand oral rehydration services and related health education in Trinidad and Tobago in order to reduce morbidity and mortality caused by diarrheal diseases in young children. Phase II of this project will permit the Ministry of Health and the University of West Indies to extend project activities to the counties of Victoria and Tobago, and at the same time, develop materials for a multi-media health education campaign.

/DIARRHEA/ - /HEALTH SERVICES/ /HEALTH EDUCATION/
$98700 18 months
-UNIVERSITY OF THE WEST INDIES (UWI), PORT OF SPAIN, TT

82-0072 (IS)
ENVIRONMENTAL SANITATION INFORMATION CENTRE (ENSIC) - PHASE II

Phase I of this project enabled the Asian Institute of Technology (AIT) to establish an information centre for sanitation to serve users, planners, engineers, and decision-makers globally. Phase II will continue IDRC's support for the Environmental Sanitation Information Centre (ENSIC). Specifically the objectives of phase II are to continue building up a computerized bibliographical data base of documents relating to low-cost sanitation; to continue publishing ENFO, Environmental Sanitation Abstracts and Environmental Sanitation Review; to further develop cooperation and links with other institutions; and to disseminate sanitation information.

/INFORMATION SERVICES/ /SANITATION/ /WASTE DISPOSAL/ /DATA COLLECTING/ /INFORMATION DISSEMINATION/
$98730 36 months
-ASIAN INSTITUTE OF TECHNOLOGY (AIT), BANGKOK, TH

82-0073 (AFNS)
ROOT CROPS (CONGO-BRAZZAVILLE) - PHASE II

Cassava is the staple food for the majority of people of the Congo. Phase I of this project made a useful contribution in assisting a new scientific research organization in the country, the Agronomic Research Centre, to establish a cassava research program. The program has made a start in selecting improved cassava varieties resistant to the diseases and pests that cause severe damage to the crop. In phase II of this project the general objective will continue to be to increase production of cassava on small farms in the Congo. Specifically, researchers will continue the breeding and selection program begun in phase I, and will screen the improved material to determine its acceptability to Congolese farmers and their families and its usefulness for industrial purposes.

/CASSAVA/ - /PLANT BREEDING/ /GENETIC IMPROVEMENT/ /PESTS OF PLANTS/ /PLANT DISEASES/ /AGRICULTURAL EXTENSION/
$139000 36 months
-DEPARTEMENT DE LA RECHERCHE SCIENTIFIQUE, BRAZZAVILLE, CG

82-0074 (SS)
TEACHING AND LEARNING BIOLOGY (KENYA)

The educational system has been a major focus of post-independence development strategy in Kenya. The Government of Kenya is concerned with educational quality and therefore recognizes the priority of educational research focused on improvement in classroom teaching. This project will study classroom teaching and learning in secondary schools in Kenya focusing on one discipline, biology. It represents an innovative effort to draw teachers fully into the research process, thereby improving their performance through self-reflective participation. The project will develop, within participative workshops, new teacher training methods to improve teaching skills so as to improve teaching of biology in Kenyan schools.

/TEACHING/ - /SECONDARY EDUCATION/ /EDUCATIONAL INNOVATIONS/ /TEACHING METHODS/ /BIOLOGY/ /TEACHER TRAINING/ /PROJECT EVALUATION/
$44000 36 months
-KENYATTA UNIVERSITY COLLEGE, NAIROBI, KE

82-0075 (SS)
THE QUALITY OF TEACHER TRAINING (COLOMBIA)

Much research has been done on what makes a good teacher, but the knowledge gained from this research is often not put into practice. Most teachers are exposed to certain "good" pedagogical principles and teaching strategies in their training, but their teaching methods do not reflect this. The objective of this project is to describe the processes and characteristics of teacher training in Colombia, in an effort to examine the interplay between what is nominally taught in teacher training colleges and what is applied in the actual classroom situation. Results of this project will contribute to a better understanding of what role training colleges currently play and might later play in improving the quality of education.

/TEACHER TRAINING/ - /TEACHING METHODS/
$60300 18 months
-CENTRO DE INVESTIGACIONES DE LA UNIVERSIDAD PEDAGOGICA (CIUP), BOGOTA, CO

82-0077 (SS)
URBAN FOOD MARKETS (MANILA)

Administrators in Metro Manila, Philippines are greatly concerned with providing food to the population, especially the urban poor, at affordable prices and in steady supply. Government concern over the availability of food and goods is clearly reflected in the recent establishment of a system of government food supply and distribution centres (Kadiwa Centres) in the city and other parts of the country. The general objective of this project is to analyze the effectiveness of recent government intervention strategies in food marketing and the extent to which the urban poor are affected in Manila. Specifically researchers will trace the historical development of the urban food market system in Manila; analyze the economics of food markets; analyze the effects of government controls and legislation on food market operation; and study the location of food markets.

/FOOD SUPPLY/ - /DISTRIBUTION/ /MARKET STUDIES/ /MARKETING/ /LEGISLATION/ /CONSUMER PRICES/
$65200 18 months
-PHILIPPINE CENTRE FOR ECONOMIC DEVELOPMENT, QUEZON CITY, PH

82-0078 (HS)
ACUTE RESPIRATORY INFECTIONS (INDIA)

In India, acute respiratory infection (ARI) is considered to be responsible for up to 40 percent of all childhood illnesses and approximately 30 percent of deaths among children. The public health importance of ARI has accorded high priority to research activities that will help develop simple and effective detection, diagnostic and preventive methods. The purpose of this project is to examine the causes of ARI in different climatic and cultural settings in South India. Researchers will describe the course and outcome of acute respiratory infections, and their relation to biological, socioeconomic and environmental factors; determine the relative frequency of viruses, bacteria and other microorganisms in the cause of ARI; monitor ARI-causing organisms and their epidemiological patterns in the community; and determine the antibiotic sensitivity of selected bacteria isolated from patients with ARI.

/INFECTIOUS DISEASES/ - /RESPIRATORY SYSTEM/ /EPIDEMIOLOGY/ /DIAGNOSIS/ /CHILDREN/
$175000 36 months
-CHRISTIAN MEDICAL COLLEGE AND HOSPITAL, TAMIL NADU, IN

82-0079 (SS)
NON-TRADITIONAL EXPORTS (NICARAGUA) - PHASE II

The development of nontraditional exports will assist Nicaragua in finding solutions to serious trade imbalances and to pressing foreign exchange requirements. Phase I of this project identified promising nontraditional agricultural products, for example peanuts, sesame, bees' honey, mangoes, grapefruits, etc., for export development. Phase II will reduce the number of products identified in Phase I from 15 to 5 that have export potential given production and market factors. Researchers will define the Nicaraguan domestic commodity system obtaining information on production characteristics, types of organization, technology utilized and input requirements. The project will develop appropriate export strategies based on commodities systems analysis.

/EXPORTS/ - /AGRICULTURAL PRODUCTS/ /EXPORT PROMOTION/
$95000 12 months
-CENTROAMERICANO DE ADMINISTRACION DE EMPRESAS (INCAE), MANAGUA, NI

82-0080 (HS)
MATURATION OF SPERMATOZOA (KENYA)

In the past years, the development of large national family planning programs and the changing role of women have led to an increased interest in developing male contraceptive methods. However attempts to develop male contraceptive methods with the use of present day drugs, such as steroids, have not been successful. More basic knowledge of the anatomy, physiology and biochemistry of the male reproductive system is needed. This project focuses on the physiological role of the sympathetic nerve supply to the testis and the epididymis in the regulation of sperm maturation. Researchers will conduct studies to determine whether surgical interference with sympathetic nerve tone will result in overaging of spermatozoa, thereby causing infertility. Specifically, the project will produce evidence in a goat model that the delay in passage time of spermatozoa through the epididymis, effected by loss of sympathetic nerve tone, will result in loss of fertility.

/CONTRACEPTION/ - /MALES/ /PHYSIOLOGY/
$78200 15 months
-UNIVERSITY OF NAIROBI, NAIROBI, KE

82-0081 (AFNS)
ISABELA POSTHARVEST SYSTEMS (PHILIPPINES) - PHASE II

Although a variety of small-farm facilities for drying, storing, and transporting crops are available in the Philippines, few farmers or villages possess or can afford them. Postharvest losses are high. In phase I of this project researchers worked with the farmers in a typical cooperative to determine the most suitable postharvest system. Mechanical rice threshers and dryers were installed in two villages in the Cagayan Valley, Philippines. In phase II researchers will continue to monitor the operation, utilization and management of threshers and dryers installed in phase I; install, monitor and optimize the operation, utilization and management of a mechanical reaper, pre-drying handling facilities, and a cooperatively owned rice mill; and determine the economic viability and acceptance of these facilities.

/post-harvest systems/ - /RICE/ /GRAIN PROCESSING/ /DRYING/ /AGRICULTURAL MECHANIZATION/ /AGRICULTURAL COOPERATIVES/ /APPROPRIATE TECHNOLOGY/
$156500 24 months
-ISABELA STATE UNIVERSITY, ISABELA, PH

82-0082 (AFNS)
LEGUME PROCESSING (THAILAND) - PHASE III

Phases I and II of this project sought to increase consumption of legumes and cowpeas, which are rich in protein and can be grown without irrigation, in Northeast Thailand. In the two previous research phases highly acceptable cowpea products were produced, a preliminary assessment of the feasibility of developing village cowpea mills was made and a prototype system was developed for delivering these technologies, (that is, the recipes and processing techniques) to the village residents and food vendors in Northeast Thailand. It is the intention of phase III to test on a wider scale the effectiveness and cost of using the delivery system that was developed, and the feasibility of promoting cowpea milling as a means to further establish a market for cowpeas in Northeast Thailand.

/COWPEAS/ /GRAIN PROCESSING/ /FLOUR/
$141900 36 months
-KHON KAEN UNIVERSITY, KHON KAEN, TH

82-0083 (IS)
WORLD HONEY SOURCES DIRECTORY

Beekeeping is a most useful occupation among rural populations of developing countries, to provide food for the family or a cash crop. Bees harvest crops of nectar, honeydew, pollen, and propolis that would otherwise go to waste; and bees play an important role as pollinators in the agricultural production system. This project will enable the International Bee Research Association (IBRA) to compile a directory of the world's main honey-producing plants, in a form which can be amplified and updated later.

/APICULTURE/ - /DIRECTORY/ /HONEY/ /PLANTS/
$49385 18 months
-INTERNATIONAL BEE RESEARCH ASSOCIATION (IBRA), BUCKS, ENGLAND, GB

82-0084 (AFNS)
PLANTAIN/BANANA IMPROVEMENT (JAMAICA)

The serious situation caused by the spread of black sigatoka disease (a fungal disease) through Central America and part of West Africa is threatening the staple plantain and banana food supplies of many small holders. Recommendations to alleviate the effects of this disease have included the rapid multiplication and testing, in the affected areas, of possible resistent varieties. This project will provide urgent assistance to the Jamaica Banana Breeding Scheme to enable it to maintain its germ plasm collection and to carry out a modest breeding program until a full-scale breeding program can be restarted; and will enable a start to be made in developing a facility for plantain and banana meristem culture which will allow material to be imported and exported without the risk of disease transmission.

/BANANAS/ - /PLANT BREEDING/ /GENETIC IMPROVEMENT/ /PLANT DISEASES/
$93500 24 months
-BANANA COMPANY OF JAMAICA LTD., KINGSTON, JM

82-0085 (AFNS)
DAIRY FEEDING SYSTEMS (TANZANIA)

Milk is the most important source of animal protein in Tanzania. Smallholder dairy farmers are the main source of milk and deserve attention as the most likely source of increased production to satisfy both urban and rural demand. The objective of this project is to develop improved systems of smallholder dairy farming in the Moshi/Arusha area of Northern Tanzania. A survey will be conducted to make a preliminary assessment of the farming systems of the area, define the main problems facing small-scale dairy farmers, and select sites for more detailed work. The project is expected to identify innovations that will be adopted by farmers and/or policy guidelines that, upon implementation, will allow expansion of milk production by smallholders in Northern Tanzania.

/DAIRY INDUSTRY/ - /FARMING SYSTEMS/ /FEED/ /FARM SIZE/ /FORAGE CROPS/
$218800 42 months
-UNIVERSITY OF DAR ES SALAAM, DAR ES SALAAM, TZ

82-0086 (AFNS)
FARMING SYSTEMS RESEARCH (ICARDA)

Farming Systems Research (FSR) at the International Centre for Agricultural Research in the Dry Areas (ICARDA) aims to find strategies that will add stability to and improve the farming systems in the region. This project will encourage ICARDA to develop a methodology of FSR that can be used to solve problems in crop and livestock husbandry in the Middle East and to train people in the region to use this methodology. Researchers will identify technical and socioeconomic constraints to improving productivity of livestock-cropping systems, and seek the means of overcoming these constraints. On-farm testing of improved systems and technologies will take place.

/FARMING SYSTEMS/ - /MIXED FARMING/ /LIVESTOCK/ /ANIMAL PRODUCTION/ /FOOD PRODUCTION/ /CULTIVATION PRACTICES/
$501600 36 months
-INTERNATIONAL CENTER FOR AGRICULTURAL RESEARCH IN THE DRY AREAS (ICARDA), ALEPPO, SY

82-0087 (AFNS)
GOATS (PHILIPPINES)

Goat production is increasing among Filipino farmers who raise the animals in backyards or on commercial scale. The main problem that confronts farmers is feeding their goats during the dry months. Ipil-ipil (Leucaena leucocephala) is a leguminous tree that grows abundantly throughout the year in most types of soil and climate in the Philippines. Although recommended as silage for goats, the feeding value of ipil-ipil leaf meal as a component of rations for finishing goats is yet to be determined. This project will evaluate the feasibility of finishing goats in stalls on chopped grass supplemented with ipil-ipil only, or with mixtures of ipil-ipil leaf meal and commercial concentrates. Researchers will compare the growth performance of castrated goats raised in stalls and supplemented with ipil-ipil to goats raised by pasture grazing; and determine the economics of finishing goats in stalls.

/GOATS/ - /FEED/ /COMPARISON/
$105000 24 months
-BUREAU OF ANIMAL INDUSTRY, MINISTRY OF AGRICULTURE AND FOOD, MANILA, PH

82-0088 (AFNS)
TROPICAL PASTURE EVALUATION (ECUADOR)

Livestock population is considerable in Ecuador, but despite this, beef and milk production are insufficient to meet the demand. As a result, the country has to import large amounts of those products. To increase beef and milk production, Ecuadorian scientists believe they should stimulate cattle production in extensive systems in the vast, underpopulated and under-exploited Amazon Region. This project will enhance the efforts of Ecuadorian scientists by incorporating improved grass and legume species in the cattle production systems that are being established by recent settlers in the Amazon region of Ecuador. The project provides the means to evaluate improved forage crop germ plasm developed by the International Centre for Tropical Agriculture (CIAT).

/FORAGE CROPS/ - /GENETIC IMPROVEMENT/ /CATTLE PRODUCTION/ /GRAZING/ /GRASSES/ /LEGUMINOSAE/
$184000 36 months
-INSTITUTO INTERAMERICANO DE COOPERACION PARA LA AGRICULTURA (IICA), QUITO, EC

82-0089 (AFNS)
CROPPING SYSTEMS OUTREACH (IRRI) - PHASE II

Research at the International Rice Research Institute (IRRI) has proven that a wide diversity of alternative crops can be grown intensively with rice on small farms in Asia. IRRI's cropping systems program has developed a farm-based cropping systems research methodology. This methodology is based on designing and testing new technology on the farm with the farmer as a partner in the research. Phase I of this project sought to accelerate the transfer of the technology and methodology of multiple cropping research in Asia by establishing a team at IRRI to provide advice, guidance, and support. Phase II will ensure that the high level of interaction among scientists begun in phase I will continue while the scientists develop the methodologies for the final steps in the overall research methodology.

/CULTIVATION SYSTEMS/ - /RICE/ /RESEARCH PROGRAMMES/ /ORGANIZATION OF RESEARCH/ /FOOD PRODUCTION/ /FERTILIZERS/
$737200 36 months
-INTERNATIONAL RICE RESEARCH INSTITUTE (IRRI), MANILA, PH

82-0090 (HS)
LEISHMANIASIS (COLOMBIA)

Leishmaniasis, a parasitic disease, is widespread in the tropics and subtropics. There are three main varieties of leishmaniasis: cutaneous, mucocutaneous and the visceral form. In Colombia, cutaneous and mucocutaneous leishmaniasis is widespread and poses a major public health problem in several regions of the country. To date, treatment of leishmaniasis is unsatisfactory, as most of the drugs being used are potentially toxic. This project will examine the relationship between clinical forms of leishmaniasis and the response to therapy. Researchers will pay close attention to the immune status of the patient as this appears to play an important role in the natural history of the disease.

/PARASITIC DISEASES/ - /DIAGNOSIS/ /EPIDEMIOLOGY/
$328900 36 months
-FUNDACION PARA LA EDUCACION SUPERIOR (FES), CALI, CO

82-0091 (AFNS)
ANDEAN CROPS (PERU) - PHASE II

This project represents one of the most serious and integrated attempts to improve the farming systems and general well-being of the people of the high Andes region of South America. Phase I demonstrated that significant technical improvements are possible and that the communities will accept and adopt new systems that bring them benefit. Phase II will continue the progress demonstrated in phase I. Specifically phase II will promote improved living conditions in the highland communities of Peru by means of research and development activities in crops, animals, forestry and socioeconomic studies. Researchers will complete the ecological, technical and socioeconomic analysis of traditional Andean community production systems; generate appropriate technology at the community level; and publish and distribute information for use by extension and development institutions.

/CULTIVATION SYSTEMS/ - /AGRICULTURAL PRODUCTION/ /CULTIVATION PRACTICES/ /AGRARIAN STRUCTURE/ /ANIMAL PRODUCTION/
$657010 36 months
-INSTITUTO INTERAMERICANO DE COOPERACION PARA LA AGRICULTURA (IICA), LIMA, PE

82-0092 (AFNS)
DROUGHT RESISTANT CROPS (CATIE) - PHASE II

Agriculture plays a vital role in the subsistence and well-being of the Central American population. This project is the continuation of a serious effort, begun in El Salvador, to define and understand semi-arid areas in Central America and to find improved crops and cropping systems suitable to these conditions. The purpose of this research has been to improve the productivity and general well-being of the rural population. In this second phase of research, the objectives are to identify and evaluate promising drought resistant crop cultivars in semi-arid cropping systems; define more accurately, those areas designated "semi-arid"; identify those areas where the developed technology is expected to be successful; and to promote training, collaboration and exchange of information among researchers and extension workers.

/CULTIVATION SYSTEMS/ - /DROUGHT/ /CLIMATIC ZONES/ /ARID ZONE/ /AGRICULTURAL PRODUCTION/ /SORGHUM/ /PIGEON PEAS/ /COWPEAS/ /BEANS/
$291000 36 months
-CENTRO AGRONOMICO TROPICAL DE INVESTIGACION Y ENSENANZA (CATIE), TURRIALBA, CR

82-0093 (AFNS)
GROUNDNUT IMPROVEMENT (MOZAMBIQUE) - PHASE II

The overall objective of this project has been to assist groundnut producers by developing improved agronomic practices and varieties that are appropriate to their circumstances, and to develop institutional capability at the national level to conduct this work. Phase I resulted in a good undertaking of research problems at the farm level in the southern part of the country. Varieties superior to farmers' present cultivars have been identified and are now being multiplied by the National Seed Company. The intention in the second phase of the project is to expand the project so as to form a national groundnut improvement program, conduct more research activities in the northern provinces, and place greater emphasis on agronomic aspects of production.

/GROUNDNUTS/ - /GENETIC IMPROVEMENT/ /CULTIVATION PRACTICES/ /ORGANIZATION OF RESEARCH/
$584600 36 months
-UNIVERSIDAD EDUARDO MONDLANE, MAPUTO, MZ

82-0094 (AFNS)
STRIGA (SUDAN) - PHASE II

Some of the most serious limiting factors on the yields of sorghum and millet and other cereal crops are the parasitic weeds of the genus Striga. The sorghum fields in Western Sudan are often devastated by the weed and nothing is produced. The Sudanese scientists during the first Phase of this project developed methods for screening a large number of sorghum lines for striga resistance. They identified tolerant lines which were cultivated in the infested areas. This second phase of the project will continue the breeding work on those promising lines in order to develop striga-tolerant varieties. Researchers will also initiate a breeding program for the development of Striga resistant millet varieties; and put more emphasis on agronomic practices that could help in the control of Striga.

/WEED CONTROL/ - /SORGHUM/ /MILLET/ /PLANT BREEDING/ /GENETIC IMPROVEMENT/ /CULTIVATION PRACTICES/
$211600 24 months
-MINISTRY OF AGRICULTURE, FOOD AND NATURAL RESOURCES, WADMEDANI, SD

82-0095 (AFNS)
MULTIPLE CROPPING (COLOMBIA) - PHASE II

Phase I of this project sought to adapt and develop methodologies for multiple cropping research under Colombian conditions, to carry out agronomic research involving small farmers, and to develop technological recommendations capable of increasing small-farm production and income. While institutional rigidities and a certain conservative resistance slowed on-farm testing and application of results, phase I has demonstrated useful results and good potential for improving the living conditions of Colombian small farmers. The objectives of phase II are to complete evaluation and formulate technical recommendations for six intercropping patterns tested in Phase I; to evaluate two intercropping systems based on sugarcane and yams; to conduct pre-production trials on farmers' fields; and to transfer the technology and information generated to farmers through appropriate Colombian institutions.

/CULTIVATION SYSTEMS/ - /INTERCROPPING/ /AGRICULTURAL PRODUCTION/ /PLANT BREEDING/ /PLANT DISEASES/
$336300 36 months
-INSTITUTO COLOMBIANO AGROPECUARIO (ICA), BOGOTA, CO

82-0096 (AFNS)
LOWLAND OIL CROPS IMPROVEMENT (ETHIOPIA)

Although Ethiopia is the original home of several oil crops, little concerted effort has been directed at their improvement and local consumption of oil is very low. The lowland regions of Ethiopia are considered to have considerable potential for increased oil crop production. The overall objective of this project is to increase the production of vegetable oil by small farmers, cooperatives and state farms in lowland areas. This objective is to be achieved by developing high-yielding, stable cultivars of sesame, groundnut, safflower and castor, with appropriate husbandry practices, and by developing the indigenous ability to sustain the necessary research activities.

/OIL CROPS/ - /OILSEEDS/ /VEGETABLE OILS/ /GENETIC IMPROVEMENT/ /CULTIVATION PRACTICES/
$347600 36 months
-INSTITUTE OF AGRICULTURAL RESEARCH (IAR), ADDIS ABABA, ET

82-0098 (AFNS)
CASSAVA AND SWEET POTATO (RWANDA) - PHASE I

Root crops are an important source of food for the peoples of East Africa, particularly during periods of drought when cereals are not available. In Rwanda, where subsistance agriculture is the primary economic activity, the staple crops of cassava and sweet potato are cultivated far below their potential, due partly to the incidence of plant diseases. This project will support research into genetic improvement to increase resistance to disease and make them more tolerant to climatic changes. The project encompasses an examination of postharvest systems, the training of technicians and the establishment of an information exchange network on cassava and sweet potatoes.

/ROOT CROPS/ - /CASSAVA/ /SWEET POTATOES/
$415200 24 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA
-MINISTRY OF AGRICULTURE, KIGALI, RW
-INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE (IITA), IBADAN, NG

82-0099 (SS)
METHODOLOGIES FOR ENERGY PLANNING (LATIN AMERICA) _- PHASE I

Planning in the energy sectors of many Latin American countries is currently under critical review from both official and unofficial sources, and there is a widespread realization that current practice is inadequate to cope with the complexity of the issues involved. This project will contribute to attempts in Latin America to improve the formulation of government policy towards the energy sector. The project will give special emphasis on the management of energy demand, the development of alternative energy sources and technologies and the design of decentralized energy supply systems, particularly in rural areas. Specifically, researchers will review policymaking practice in four areas: energy resource assessment, energy demand management, formulation of long term objectives for energy sector development, and the utilization of biomass as an energy source.

/ENERGY POLICY/ - /policy making/ /ENERGY SOURCES/ /POWER DEMAND/
/PLANNING/
$161000 24 months
-UNIVERSIDAD DE CHILE, SANTIAGO, CL

82-0100 (AFNS)
FARM FORESTRY (NEPAL)

The forest area of Nepal has been reduced by 25 percent over the past decade. Local forest areas are plundered because trees and grass are regarded as free goods to which every member of the community is entitled. The general objective of this project is to develop among small farmers the practice of planting trees on their own land to satisfy their needs for fuelwood, fodder, green manure and small timber. The long-term goal is to increase the productivity of land and to maintain a proper ecological balance by preventing the destruction of the forest cover on public lands particularly in hilly areas. Researchers will select and test tree species for planting on farmlands; develop simple propagation techniques; investigate the most effective methods of protecting trees; and develop various planting patterns for growing trees on small farms.

/SILVICULTURE/ - /TREES/ /FUELWOOD/ /FARMS/
$269900 36 months
-TRIBHUVAN UNIVERSITY, KATHMANDU, NP

82-0102 (SPA)

MANAGEMENT IMPROVEMENT IN THE SAHELIAN RESEARCH INSTITUTES (AGIR)

Problems in management can be considered one of the obstacles in achieving greater development in Africa. The poor quality of management at the national or regional levels (public enterprises, administration, research institutes) is often due to an insufficient number of trained managers, to inadequate structures, and to outdated administrative processes. Any improvement at the managerial level of research institutes should have a direct impact on the scientific achievements in African countries. The aim of this project is to improve long-term and short-term planning systems, as well as the administrative, personnel, legal and financial operations in 32 research institutes in the Sahel.

/MANAGEMENT/ - /RESEARCH CENTRES/
$216000 30 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

82-0103 (SS)

EMPLOYMENT AND FOREIGN EXCHANGE (INDIA)

This project will investigate dual problems within the Indian economy: its high rate of unemployment and its low foreign exchange reserves. The project will examine the relationship between foreign exchange earnings and employment creation in the Indian context by looking at the problems of unemployment and export earnings in the tourist, handicraft and leather industries and by investigating government policies to promote exports. Research will investigate how employment can be increased within these industries, most of which are located in the rural areas, by increasing exports.

/EMPLOYMENT CREATION/ - /FOREIGN EXCHANGE/ /EXPORT PROMOTION/ /COTTAGE INDUSTRY/ /LEATHER INDUSTRY/ /TOURISM/
$300000 24 months
-INDIAN COUNCIL FOR RESEARCH ON INTERNATIONAL ECONOMIC RELATIONS (ICRIER), NEW DELHI, IN

82-0104 (SS)

FOOD PRICE, SUBSIDY AND MARKETING ANALYSIS (ANTIGUA, ST. VINCENT)

Antigua and St. Vincent import significant quantities of foodstuffs in order to meet local demand. Economists and nutrition specialists recognize that a better understanding of the food marketing system is a prerequisite for reducing the dependency on costly food imports and for achieving a more equitable allocation of food resources in the Eastern Caribbean. This project will help to identify and analyze relevant agricultural policies and programs which can contribute to the future formulation of national food price, subsidy and marketing programs. Specifically, researchers will identify and describe the current food policies and programs in Antigua and St. Vincent; measure and analyze the effects of these policies on production, imports and consumption; and develop a methodology for assessing the impact of food price and subsidy policies and food marketing systems on nutrition.

/FOOD POLICY/ - /FOOD SUPPLY/ /SUBSIDIES/ /AGRICULTURAL MARKET/ /FOOD PRODUCTION/ /FOOD CONSUMPTION/ /NUTRITION/ /MARKETING/
$137000 24 months
-PANAMERICAN HEALTH ORGANIZATION (PAHO), WASHINGTON, US

82-0105 (SS)
DAIRY MARKETING (ZIMBABWE)

There are some 700-800 000 families concentrated on poorer lands known as, "communal areas" in Zimbabwe. These areas are characterized by peasant agriculture and incomes estimated at $40 per capita in 1980. Cattle are used extensively in the communal areas as a source of milk. Although commercial trade in this commodity does not generally exist, provision of a milk marketing infrastructure would be an important route to developing new income opportunities. This project will assist the Dairy Marketing Board of Zimbabwe to undertake research for planning and implementation of milk marketing systems in both traditional and resettlement farming areas of Zimbabwe. Researchers will work with peasant farmers to determine how such marketing could best be effected.

/MARKETING COOPERATIVES/ - /MILK/ /MARKET PLANNING/
$30000 6 months
-DAIRY MARKETING BOARD (DAIRIBORD), HARARE, ZW

82-0106 (SS)
COMMUNICATIONS STATE-OF-THE-ART REVIEWS (LATIN AMERICA)

This project builds upon work previously supported by IDRC which sought to review and develop research activities in the area of communications in Latin America. With the earlier project, state-of-the-art reviews of communication research were conducted in Peru and Chile by national research groups. This project will develop additional state-of-the-art reviews of communications research which will identify and summarize research findings that may be useful in determining future directions and research topics, as well as appropriate methodologies in the field of communications. Specifically the project will support three additional national reviews in Argentina, Colombia, and Brazil; conduct a comparative analysis of the national reviews of communications research; and disseminate the results of the reviews to a larger audience of communication researchers, students, journalists and policymakers.

/COMMUNICATION RESEARCH/ - /COMMUNICATION/ /ORGANIZATION OF RESEARCH/
/INFORMATION DISSEMINATION/ /RESEARCH RESULTS/
$35800 12 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

82-0107 (HS)
DENGUE HEMORRHAGIC FEVER (CUBA)

Dengue hemorrhagic fever (DHF) is an acute and sometimes fatal disease which is transmitted by the mosquito. In 1981, an epidemic of DHF occurred in Cuba. This was the first time such an outbreak of DHF affecting hundreds of thousands of people, had occurred either in Cuba or in the Caribbean area. The purpose of this project is to examine the factors which may have contributed to the severity of the epidemic, such as susceptibility of the hosts and the virulence of the particular strain of dengue. Researchers will also study epidemiological and clinical factors, and provide a current picture of the immunological status of the Cuban population to dengue virus.

/INFECTIOUS DISEASES/ - /EPIDEMIOLOGY/ /VIRUSES/ /IMMUNOLOGY/
$163100 36 months
-INSTITUTO DE MEDICINA TROPICAL "PEDRO KOURI", HAVANA, CU

82-0108 (IS)
JORDANIAN AGRICULTURAL DOCUMENTATION CENTER (JORDOC)

The role of agriculture in the Jordanian economy is an important one. Provision of information is vital for the agriculture research establishment, but at present there is no organization or management of agricultural information in Jordan at the national level that can adequately serve specific needs. This project will enable the faculty of Agriculture, University of Jordan, in conjunction with the Ministry of Agriculture, to organize national agricultural information, to capture and control national agricultural literature and to participate in the global agricultural information system AGRIS. An annual agricultural bibliography, taken from AGRIS input and combined with information on Jordanian agriculture published outside of Jordan, will be published in conjunction with FAO.

/AGRIS/ - /INFORMATION SYSTEMS/ /BIBLIOGRAPHY/ /INFORMATION SERVICES/
$166583 36 months
-UNIVERSITY OF JORDAN, AMMAN, JO

82-0109 (IS)
ANIMAL PRODUCTION DOCUMENTATION TEAM (ILCA) - PHASE II

The International Livestock Centre for Africa (ILCA) was established to promote the development and demonstration of improved livestock production systems. Phase I of this project permitted ILCA to locate, select, and mocrofilm nonconventional literature related to animal production systems and make it available in a convenient and easily disseminated form. Phase II will continue support for ILCA in its collection of nonconventional literature related to animal production, extending the activity to 13 countries in addition to the ten covered in phase I. Researchers will prepare and distribute national bibliographic catalogues which list the documents that have been microfiched. Also within the framework of this project, ILCA will collect and microfiche relevant nonconventional literature on agroforestry for the International Council for Research in Agroforestry (ICRAF).

/ANIMAL PRODUCTION/ - /DATA COLLECTING/ /MICROFICHES/ /CATALOGUE/
/AGROFORESTRY/
$373870 24 months
-INTERNATIONAL LIVESTOCK CENTRE FOR AFRICA (ILCA), ADDIS ABABA, ET

82-0110 (IS)
RESEARCH RESULTS DISSEMINATION (NAIROBI)

One of the major constraints in developing countries to the dissemination of research results has been the lack of resources available to many national, regional and even international research organizations and institutions to enable them to publish those results. Funds from this project will provide for the posting to Nairobi, Kenya of an experienced scientific editor who will advise three research institutions based in Kenya: the International Council for Research in Agroforestry (ICRAF); the International Centre of Insect Physiology and Ecology (ICIPE); and the Kenya Rangeland Ecological Monitoring Unit (KREMU). The project seeks to both satisfy the publication needs of the three organizations and establish a core of trained and experienced East African editors.

/RESEARCH RESULTS/ - /INFORMATION DISSEMINATION/
$390060 36 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

82-0111 (HS)
FERTILITY REGULATION IN NURSING WOMEN (CHILE)

There is a need for contraceptive methods that can be introduced when the mother is still lactating which are highly effective and safe to the health of the mother and the child. The effectiveness and safety of pure progesterone pellets inserted under the skin as a control method for lactating women has been investigated by IDRC in Santiago, Chile. Data accumulated to date has been highly promising in terms of effectiveness and freedom from side effects. However, pellet manufacture and expulsion rates represent a major problem. The objectives of this project are to improve the progesterone implant, particularly with regard to reducing the expulsion rate; develop alternative delivery systems for continuous progesterone administration; and assess the contraceptive effectiveness of progesterone pellets during prolonged lactation (over the 8th month postpartum).

/CONTRACEPTIVES/ - /breast feeding/
$254600 30 months
-CENTRO NACIONAL DE LA FAMILIA (CENFA), SANTIAGO, CL

82-0112 (SS)
SMALL RESEARCH GRANTS (EAST AFRICA) - PHASE III

Phases I and II of this project provided support for the Social Science Research Competition, held annually since 1974 for researchers in Eastern and Southern Africa. The Competition facilitates basic research in the social sciences and contributes to the establishment and maintenance in Eastern and Southern Africa of a social science community with high levels of scholarship. Phase III of this project will provide support for the ninth round of the Competition.

/research fellowships/ /SOCIAL RESEARCH/ /ORGANIZATION OF RESEARCH/
/INSTITUTION BUILDING/
$104800 11 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

82-0113 (HS)
ORAL CONTRACEPTIVE RISK FACTORS (MEXICO)

It is now established, at least among American and British women, that long-term use of oral contraceptives, especially among women 30 years of age or over, who have family and/or personal history of cardiovascular diseases, high blood pressure and who are heavy smokers, run a relatively high risk of developing cardiovascular diseases. In Mexico, 33 percent of the total population of contraceptors use oral contraceptives. As a result of awareness of the high-risk factors associated with cardiovascular diseases, the Mexican authorities have issued several norms to health providers on the screening of these factors among oral contraceptive users. This project will determine the actual level of knowledge of oral contraceptive users and providers regarding these high-risk factors, and to what extent screening for them is actually taking place.

/ORAL CONTRACEPTIVES/ - /HEALTH SERVICES/
$128500 18 months
-DESARROLLO DE LA INVESTIGACION EN PLANIFICACION FAMILIAR (DIPLAF), MEXICO, MX

82-0114 (SS)
URBAN FOOD, FUEL AND SHELTER (KENYA)

Recent development trends in Kenya suggest that urban food and fuel have increasingly become issues of national significance. Although food and fuel are large items of household expenditure, they have been scarcely studied in terms of urban household economy. This project will explore and document food and fuel production on urban land, its pattern of consumption, and its role in the low income household budget under different conditions in six Kenyan cities. The project will also permit the recipient institution, the Mazingira Institute, to develop further an information network related to urban shelter projects in the East African region: the Settlement Information Network - Africa (SINA). Specifically, SINA will establish an information exchange on self-help experiences in the region, through workshops and newsletters.

/URBANIZATION/ - /FOOD PRODUCTION/ /FOOD CONSUMPTION/ /FUELWOOD/ /FAMILY BUDGET/ /LAND USE/
$305000 24 months
-MAZINGIRA INSTITUTE, NAIROBI, KE

82-0115 (SS)
EDUCATION, SOCIETY AND MARGINAL GROUPS (CHILE)

Few educational research institutions in the developing world have been able to achieve such national and regional importance as the Centre for Educational Research and Development (CIDE) in Santiago, Chile. The purpose of this project is to provide program support over a period of three years to CIDE. The grant is intended to strengthen CIDE's research capacity in education by supporting an integrated program of research, development and dissemination activities. This project will support CIDE researchers in their efforts to examine in detail the conditions of poor and marginal groups in society - the inequities which plague them, the nature of the culture created by them, and alternative activities of education and training which might be developed to improve their daily lives.

/EDUCATIONAL RESEARCH/ - /ORGANIZATION OF RESEARCH/ /EDUCATIONAL OPPORTUNITIES/ /EDUCATIONAL INNOVATIONS/ /LOW INCOME/ /SOCIAL CHANGE/
$460000 36 months
-CENTRO DE INVESTIGACION Y DESARROLLO DE LA EDUCACION (CIDE), SANTIAGO, CL

82-0116 (SS)
INSTITUTIONAL SUPPORT GRANT - FLACSO (CHILE)

FLACSO (Latin American Faculties of Social Sciences) is a regional organization with centres in Argentina, Chile, Ecuador, and Mexico, which conducts research and training in the social sciences. FLACSO-Chile has continued to undertake research and where possible to provide information on current Latin American and Chilean events despite the withdrawal of government funds. FLACSO members have been successful in gaining project support from a number of international sources indicating the continuing quality of their work. This project funding will enable FLACSO-Chile to meet its operating and institutional costs over a 3-year period and to maintain its independent and respected tradition of social science research in Chile.

/SOCIAL RESEARCH/ - /ORGANIZATION OF RESEARCH/
$255000 36 months
-FACULTAD LATINOAMERICANA DE CIENCIAS SOCIALES (FLACSO), SANTIAGO, CL

82-0117 (SS)
INSTITUTIONAL SUPPORT GRANT - CEUR (ARGENTINA)

The Urban and Regional Studies Centre (CEUR), Argentina, is a private institution whose purpose is to undertake research on urban and regional development and planning. CEUR has undertaken research on the urban and regional problems of Latin America and Argentina over its twenty year existence. By combining the technical and analytic skills of its researchers, CEUR has offered policymakers and citizens more reasonable and humane alternatives to the problems of dense human settlements. The purpose of this project is to provide an institutional support grant for a period of three years to CEUR. This grant will strengthen the institutional base of CEUR by providing funds for administration, training, and partial salary support for a number of researchers.

/RESEARCH CENTRES/ - /HUMAN ENVIRONMENT/ /LIVING CONDITIONS/ /URBAN AREAS/ /REGIONAL DISPARITY/ /POPULATION TRANSFERS/ /PUBLIC WORKS/
$150000 36 months
-CENTRO DE ESTUDIOS URBANOS Y REGIONALES (CEUR), BUENOS AIRES, AR

82-0118 (SS)
INSTITUTIONAL SUPPORT GRANT - CIESU (URUGUAY)

CIESU (Uruguayan Information and Study Centre) is a private centre with a mandate to undertake research on contemporary social problems in Uruguay and Latin America. CIESU has experienced financial and operating difficulties because of a lack of domestic support due to present government policies on social science research. Nevertheless CIESU has earned a high reputation for its demographic, rural and public investment studies. This project funding will enable CIESU to meet its operating and institutional costs over a 3-year period and to define future research goals more clearly.

/SOCIAL RESEARCH/ - /ORGANIZATION OF RESEARCH/
$210000 36 months
-CENTRO DE INFORMACIONES Y ESTUDIOS DEL URUGUAY (CIESU), MONTEVIDEO, UY

82-0119 (IS)
DEVELOPMENT PLANNING NEWSLETTER (ASIA)

This project will permit the establishment of a current awareness publication - A Development Planning Newsletter for the ESCAP (Economic and Social Commission for Asia and the Pacific) region. The purpose of the newsletter is to provide planners, policymakers, researchers, and other interested parties with regular access to information on recent developments in the field of development planning in the ESCAP region. The project will create and maintain a current information file on development planning strategies, policies, machinery and techniques of member governments; and establish a channel for disseminating current information on development planning within the region.

/DEVELOPMENT PLANNING/ - /NEWSLETTER/
$75300 24 months
-ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC (ESCAP), BANGKOK, TH

82-0120 (SS)
DISSEMINATION OF BIOLOGICAL NITROGEN FIXATION TECHNOLOGY (KENYA)

This project aims to devise a strategy for transfer of new and cheaper methods of fertilization from agricultural scientists at the University of Nairobi to small-scale bean farmers throughout Kenya. Biological nitrogen fixation (BNF) permits the innoculation of legume seeds so that plant nitrogen needs can be "fixed" from the atmosphere rather than derived from expensive chemical fertilizer inputs. Scientists have not been able to plan a diffusion strategy to take this technology to the estimated million smallholder legume producers in Kenya who could benefit from it. This project will formulate a program for the effective diffusion of BNF technology to small-scale bean growers throughout Kenya. Researchers will identify constraints to the adoption of BNF technology; determine where diffusion efforts are likely to be most successful; and, discover what communication media will be most effective in the diffusion efforts.

/SOIL IMPROVEMENT/ - /LEGUMINOSAE/ /NITROGEN/ /AGRICULTURAL EXTENSION/
/APPROPRIATE TECHNOLOGY/ /BEANS/ /AGRICULTURAL PRODUCTION/
$43500   18 months
-UNIVERSITY OF NAIROBI, NAIROBI, KE

82-0121 (AFNS)
PAULOWNIA (CHINA)

China has a serious shortage of timber and requires the development of artificial fast growing timber trees close to rural settlements. Paulownia is one of the fastest growing and most useful native tree genus of China. There are nine species with very different growth characteristics that are dispersed over a wide area of the subtropical and tropical regions of the country. The long-term objectives of this project are to increase the quality of usable timber and agricultural production through planting and intercropping Paulownia trees with various crops in the 23 provinces, autonomous regions and municipalities in which Paulownia is native. Researchers will select, breed and test tree species; and establish intercropping experiments with different tree species and crop plants.

/AGROFORESTRY/ - /FOREST TREES/ /GENETIC IMPROVEMENT/ /INTERCROPPING/
/SILVICULTURE/ /HYBRIDIZATION/ /AGRICULTURAL EXTENSION/
$356000   36 months
-CHINESE ACADEMY OF FORESTRY, BEIJING, CN

82-0122 (FAD)
East China Normal University Shanghai / Training Program

The East China Normal University, Shanghai and the University of Victoria, Victoria, B.C. signed a cooperative agreement in 1980 that seeks to enhance possible avenues or cooperating on research studies and exchange. The purpose of this project is to provide training at the University of Victoria for Chinese scholars from the East China Normal University that will assist them in the process of analyzing, diagnosing, evaluating and experimenting with educational issues. Through this group training program, the East China Normal University seeks to improve its professional training program, and to develop research projects both in graduate work and in its subordinate schools in the areas of curricula and administration.

/training programmes/ /teacher training/ /educational research/
/educational theory/
$36815   1 months
-University of Victoria. Faculty of Education, Victoria, British Columbia, CA

82-0123 (SS)
DOMESTIC AND UNREMUNERATED LABOR OF RURAL WOMEN (DOMINICAN REPUBLIC)

It is only in recent years that the importance of women in strategies to achieve national development has begun to be recognized. The realization that more specific data on women's activities are needed has led to detailed descriptions and analysis of women's daily routines. The objective of this project is to gain a better understanding of the situation of rural women in the Dominican Republic and the impact of their work on key aspects of their family and social lives. Researchers will describe the nature and quantity of female domestic labour; examine the role of women as unremunerated labourers in agriculture production activities, and the relationship between the reproductive and productive roles of women; study the participation of women in rural organizations; and examine how cultural and ideological values influence women's conception of self.

/WOMEN/ - /RURAL AREAS/ /WORKING CONDITIONS/ /FEMALE MANPOWER/ /AGRICULTURAL PRODUCTION/ /SOCIAL ROLE/ /SOCIAL PARTICIPATION/
$95400 20 months
-CENTRO DE INVESTIGACION PARA LA ACCION FEMENINA (CIPAF), SANTO DOMINGO, DO

82-0124 (AFNS)
SORGHUM MILLING (TANZANIA) - PHASE II

In Tanzania, sorghum is produced primarily at the subsistence level, the grains being ground in the household by mortar and pestle. The labour required and time consumed in home processing of sorghum has been a major reason for its decline in production. To stop the decrease in sorghum production, phase I of this project sought to develop and introduce a sorghum-milling system developed in Botswana (the RIIC dehuller) that would create a greater demand for the traditional sorghum crop and benefit the small farmer by raising his income. Phase I demonstrated the general applicability of dehulling machinery to sorghum, and confirmed that smaller milling systems would be more appropriate for rural applications. Phase II will provide the necessary information to enable Tanzania to plan an effective program of wide-scale dissemination of the equipment.

/SORGHUM/ - /GRAIN PROCESSING/ /MILLING INDUSTRY/ /FLOUR/ /AGRICULTURAL MACHINERY/ /MAINTENANCE AND REPAIR/
$156200 24 months
-SMALL INDUSTRIES DEVELOPMENT ORGANIZATION (SIDO), DAR ES SALAAM, TZ

82-0125 (SS)
TELEVISION CONTENT AND DEVELOPMENT ALTERNATIVES (PERU)

The content of television in Latin America, for the most part, consists of soap operas, canned U.S. reruns, local talent sitcoms, and variety shows. If television is to fulfill its developmental expectations, changes and innovations must occur in the use of this medium. Of particular concern is the development of programs for low income and marginal sectors. This project will explore how alternative programing that reflects the language and values of the marginal sectors of the population and is relevant to their needs and priorities can be developed for television in Peru. Researchers will focus on the form and message of programs with wide appeal among popular sectors, and identify specific elements characteristic of these programs that can be applied successfully in the design of alternative television programs with serious educational and cultural messages.

/TELEVISION/ - /CULTURAL FACTORS/ /MARGINALITY/ /SOCIAL CHANGE/
$46700 14 months
-CENTRO DE ESTUDIOS Y PROMOCION DEL DESARROLLO (DESCO), LIMA, PE

82-0126 (FAD)

DEMOGRAPHIC TRAINING WORKSHOP (CHINA)

In recent years, the Chinese have become aware of the importance of having improved demographic data and population research capability. However, China has very few qualified researchers and analysts capable of analyzing population and related labour force and health data. The existing university programs are extremely weak. The purpose of this project is to provide funds for a group training program which will provide instruction on three topics: demographic methods, demographic surveys and statistics. The project will permit three researchers from Southeast Asia and one Chinese national resident overseas to participate as instructors in this training course on demographic analysis techniques to be organized at Sichuan University.

/TRAINING PROGRAMMES/ - /DEMOGRAPHIC ANALYSIS/ /RESEARCH METHODS/
$15700 2 months
-EAST-WEST POPULATION INSTITUTE, HONOLULU, US

82-0127 (SS)

INFORMAL AND FORMAL SECTOR EMPLOYMENT (BOGOTA)

Employment in developing countries may be divided into two sectors: the modern or "formal" sector which includes employment in public and large-scale private enterprises; and the traditional or "informal" sector which includes low-productivity self-employment and employment in family-type enterprises. Informal activities in Latin American cities provide the livelihood of a large part of the population. The objective of this project is to provide a greater understanding of the links between informal and formal sector employment in Bogota, Colombia. For example, formal sector enterprises often subcontract various activities to informal sector workers; many employees in the formal sector seek to complement their income through additional informal activities. Researchers will analyze the interaction and interdependence between the formal and informal sectors in selected economic activities; and analyze the income and expenditure patterns of low-income households.

/EMPLOYMENT/ - /INFORMAL SECTOR/ /LOW INCOME/ /LABOUR MARKET/ /LABOUR MOBILITY/
$93500 18 months
-UNIVERSIDAD DE LOS ANDES, BOGOTA, CO

82-0128 (SS)

AGRICULTURAL TRANSFORMATION (PERU)

Since 1940, the social and economic organization of the food sector of Peru has evolved from one based on smallholder subsistence oriented agriculture to a more large-scale specialized system of monocultivation. The spatial reorganization and transformation of Peruvian agriculture produced a profound impact on crop volumes and yields, use of technology, incomes, resource utilization, and food distribution systems. The purpose of this project is to assess this impact and investigate the changing patterns of agricultural production in the Mantaro and Canete valleys of Peru since 1940. Researchers will analyze changes in the pattern of cultivation and the effects of these changes on the expansion or stagnation of the agricultural economy; and study the impact of agricultural policy and technological change on land use, crop choice and marketing.

/AGRICULTURAL PRODUCTION/ - /CULTIVATION SYSTEMS/ /AGRICULTURAL POLICY/ /LAND USE/ /LAND TENURE/ /TECHNOLOGICAL CHANGE/
$68400 18 months
-UNIVERSIDAD NACIONAL AGRARIA, LIMA, PE

82-0129 (SS)
AGRICULTURAL MARKETING (COSTA RICA)

In a number of developing countries, in an effort to increase small farmer income and lower urban consumer prices, governments have attempted to change the agricultural marketing structure. In Costa Rica, the government has established the "ferias" program. The "ferias" are central marketing places where small farmers bring their products -- usually on a once a week basis. The objective of this project is to review and collect available data on agricultural markets in Costa Rica and to select a representative group of markets and fresh products for further study. Researchers will describe the characteristics and operating practices of the "ferias"; and analyze data on prices and volumes of selected fresh produce in "ferias" and non-feria wholesale markets.

/AGRICULTURAL MARKET/ - /MARKET STUDIES/ /WHOLESALE MARKETING/ /PRICES/ /MARKET PLANNING/
$51930 12 months
-CENTRO PARA LA PROMOCION DE LA CIENCIA Y EL DESARROLLO SOCIOECONOMICO (PRODESARROLLO), SAN JOSE, CR

82-0130 (SS)
SOCIAL RESEARCH FOR MALARIA CONTROL (KENYA)

The World Health Organization (WHO) has launched a special program to encourage social science investigations in connection with six major tropical diseases targetted by WHO: malaria, schistosomiasis, filariasis, leishmaniasis, typanosomiasis and leprosy. Of these diseases targetted by WHO, one of the most important in Kenya is malaria. This project will assist the Institute of Development Studies at University of Nairobi to build its capacity to undertake social research on health and disease problems. Specifically the project will provide funds for a social survey in one district in Kenya which will investigate the knowledge, attitudes and practices of people in the community toward malaria.

/MALARIA/ - /DISEASE CONTROL/ /ATTITUDES/ /SOCIAL INFORMATION/
$18500 18 months
-UNIVERSITY OF NAIROBI, NAIROBI, KE

82-0131 (SS)
MASS MEDIA, PARTICIPATION AND DEVELOPMENT (PERU)

Press, television and radio exercise significant control over the amount, the ideological perspective and the direction of flow of information in any society, and particularly in those societies in which power and resources are centrally concentrated. Over the past several years, different attempts have been made to restructure the Peruvian media, to open it to wider participation. The purpose of this project is to describe and assess the Peruvian media - their operating and legal structures, distribution, ownership, ideology and openness to public participation - in terms of their contribution to the development of democracy in Peru. On the basis of these analyses, researchers will formulate policy recommendations for the development of the media in Peru in such a way as to make them more effective contributors to the social development process.

/MASS MEDIA/ - /SOCIAL DEVELOPMENT/ /COMMUNICATION POLICY/ /SOCIAL PARTICIPATION/
$23700 10 months
-ASOCIACION PERUANA DE INVESTIGACIONES DE LA COMUNICACION, LIMA, PE

82-0132 (SS)
INTERNATIONAL MIGRATION (TRINIDAD AND GRENADA)

In a small country such as Grenada, the emigration of skilled and semi-skilled labour can have a significant negative impact on the economy. The purpose of this project is to study international migration from Grenada to Trinidad and the U.S., with particular emphasis on the economic and social impact on Grenada. Specifically the project will describe the levels and trends of international migration from Grenada to Trinidad and New York; analyze the personal characteristics and motivations of migrants; assess the magnitude of remittances and their utilization for consumption and investment; and investigate differences in the migration experience between the sending societies of St. Vincent and Grenada.

/EMIGRATION/ - /MIGRANTS/ /MOTIVATIONS/ /ECONOMIC IMPLICATIONS/
$139525   12 months
-UNIVERSITY OF THE WEST INDIES (UWI), ST. AUGUSTINE, TT

82-0133 (SS)
EXPERIMENTAL IN-SERVICE TEACHER TRAINING (CHILE) - PHASE II

Phase I of this project supported research in Chile and Argentina that sought to develop, within participative workshops, new teacher training methods to improve teaching skills and the teachers' awareness of their developmental role in classroom and community. Teacher workshops have been developed and implemented and have led to noticeable improvements in classroom practice. Phase II will provide funding for the Chilean project so that further work can be done in experimenting with these workshops among quite different populations of teachers and in defining more exactly the concept of "effectiveness" in classroom teaching. Further work will also be done on ways in which the teacher training workshops can be disseminated on a wider scale.

/TEACHER TRAINING/ - /EDUCATIONAL INNOVATIONS/ /TEACHING METHODS/
/EVALUATION/
$61000   9 months
-PROGRAMA INTERDISCIPLINARIO DE INVESTIGACIONES EN EDUCACION (PIIE), SANTIAGO, CL

82-0134 (AFNS)
ANIMAL PRODUCTION SYSTEMS (ZIMBABWE)

The experience of the International Livestock Centre for Africa (ICLA) in farming systems research has led to effective diagnostic and experimental research methods for animal-based agriculture. This project gives the Department of Research and Specialist Services (DR&SS) of Zimbabwe and ILCA an opportunity to develop an institutional model for farming systems research that is suitable for national programs and will enable DR&SS to identify the technological and policy changes needed to improve land use efficiency and welfare in the communal land areas of Zimbabwe. Researchers will study mixed crop and livestock production systems in two representative sites in the communal areas of Zimbabwe in order to identify opportunities for and major constraints to improved crop and livestock production.

/FARMING SYSTEMS/ - /MIXED FARMING/ /COMMUNAL LAND/ /ANIMAL PRODUCTION/
/PLANT PRODUCTION/ /CULTIVATION SYSTEMS/
$598900   24 months
-DEPARTMENT OF RESEARCH AND SPECIALIST SERVICES, MINISTRY OF AGRICULTURE, HARARE, ZW
-INTERNATIONAL LIVESTOCK CENTRE FOR AFRICA (ILCA), ADDIS ABABA, ET

82-0135 (AFNS)
LIVESTOCK FEEDING SYSTEMS (PHILIPPINES)

Bananas are commonly grown on hilly, well drained land under high rainfall regimes in the eastern part of the Central and Southern Philippines. Much of the dry matter produced by banana is wasted. This project will evaluate ways in which banana stems, leaves and suckers can be supplemented with other crop by-products so that the relatively isolated hillside farmers can satisfy the feed requirements for finishing growth of backyard cattle or water buffalo. Researchers will determine the best combination of banana and ipil-ipil (leucaena leucocephala, a fast growing leguminous tree) for cattle and water buffalo feeding; evaluate the crop production and animal feeding system for two types of crop enterprises judged to be suitable and common to the region; and conduct a farm survey to evaluate the costs of production and management techniques that prevail among banana growing hillside farmers.

/FEED PRODUCTION/ - /BANANAS/ /LIVESTOCK/ /ANIMAL NUTRITION/ /FORAGE CROPS/ /FEED/ /CULTIVATION SYSTEMS/ /AGRICULTURAL PRODUCTION/ /PRODUCTION FACTORS/
$137000 48 months
-VISAYAS STATE COLLEGE OF AGRICULTURE (VISCA), LEYTE, PH

82-0136 (AFNS)
TIMBER ENGINEERING (PARAGUAY)

The Government of Paraguay has long realized the importance of the country's forests. But the present system of exploitation and utilization of the natural forests is highly unsatisfactory, mainly because the majority of species in the forest are not used. The principal reason for this is ignorance of the technical characteristics of most available species. There is an unwillingness to use the lesser known species in spite of their having structural properties equal to, or at least approaching, those of the few traditionally acceptable first-class species used for construction. The purpose of this project is to establish the strength characteristics of lesser known Paraguayan timber species to achieve a better utilization of the natural forest resource, and to promote the use of such species in construction, particularly in low-income housing.

/TIMBER/ - /WOOD TECHNOLOGY/ /TESTING/ /TREES/ /CONSTRUCTION INDUSTRY/ /ENGINEERING DESIGN/
$161600 36 months
-INSTITUTO NACIONAL DE TECNOLOGIA Y NORMALIZACION (INTN), ASUNCION, PY

82-0137 (AFNS)
LIGNOCELLULOLYTIC FUNGI (THAILAND) - PHASE II

Certain fungi are able to degrade both lignin and cellulose and have a potential role in improving the quality of agricultural wastes as animal feed. Lignocellulolytic fungi can be used in a simple, low cost fermentation process to raise the digestibility and protein content of rice straw. Phase I of this project enabled the Mahidol University, Thailand, to survey locally occurring soil and wood decay fungi to identify those with a potential for degradation and test the most promising species for growth on rice straw and sugarcane bagasse in terms of digestibility and protein content. Of more than 400 isolates of fungi screened, ten were selected for further study. Phase II will consist predominantly of extensive toxicity, safety and feasibility tests of selected lignocellulolytic fungi used to upgrade the animal feed value of rice straw.

/AGRICULTURAL WASTES/ - /FEED/ /MICROBIOLOGY/ /FUNGI/ /TOXICITY/
$99800 36 months
-MAHIDOL UNIVERSITY, BANGKOK, TH

82-0138 (HS)
FLOUR-DUST HYPERSENSITIVITY (SUDAN)

A high incidence of respiratory disease and hypersensitivity to flour dust has been reported among workers in the flour milling industry. This project will focus on the problem of respiratory disease caused by hypersensitivity to flour dust among workers in the flour mills and grain silos of Sudan. Researchers will monitor the environmental conditions with respect to dust concentration, particle size, temperature and humidity; determine the prevalence of respiratory disease among a group of workers and controls; establish an allergic profile of the workers, particularly with respect to flour dust allergen; and study whether there is a link between the presence of flour-dust hypersensitivity and the development of respiratory disease.

/OCCUPATIONAL DISEASES/ - /RESPIRATORY SYSTEM/ /MILLING INDUSTRY/ /FLOUR/ /WORKING CONDITIONS/ /IMMUNOLOGIC DISEASES/
$59810 24 months
-UNIVERSITY OF GEZIRA, WAD MEDANI, SD

82-0139 (AFNS)
PIGEON PEAS (KENYA) - PHASE III

Pigeon pea is the most important grain legume in the marginal rainfall areas of Kenya. In times of severest drought it is the only food plant that yields a crop. Phases I and II of this project sought to benefit small farmers by providing improved, higher-yielding and more disease-resistant varieties of pigeon pea. Phase III will develop cropping systems for the new cultivars; improve methods for screening germ plasm for wilt and drought resistance, and transfer these characters to high-yielding types; and improve productivity of marginal rainfall farms through improved access to new cultivars and associated agronomic practices.

/PIGEON PEAS/ - /PLANT BREEDING/ /GENETIC IMPROVEMENT/ /HYBRIDIZATION/ /CULTIVATION SYSTEMS/ /AGRICULTURAL EXTENSION/
$230000 36 months
-UNIVERSITY OF NAIROBI, NAIROBI, KE

82-0140 (AFNS)
MINIMUM TILLAGE (KENYA)

The relevance of the tillage practice encouraged by extension services throughout the semi-arid areas of Eastern and Southern Africa is being questioned in many countries of the region. Studies on reduced tillage or no-tillage systems suggest the following advantages: reduced demands upon family labour; higher yields through timely planting soon after rainfall; higher yields in semi-arid areas through minimizing soil moisture evaporation; and reduced erosion through minimizing disturbance of the soil. This project will develop tillage systems in Kenya suitable for the principal annual food crops and consistent with small farmers' resource limitations; and promote an applied, interdisciplinary approach to agricultural research and encourage coordinated, complementary activities by the University of Nairobi and the Ministry of Agriculture.

/CULTIVATION PRACTICES/ - /WEED CONTROL/ /PLANTING/
$173500 36 months
-UNIVERSITY OF NAIROBI, NAIROBI, KE

82-0142 (SS)
RURAL IMPACT OF MIGRATION (SIERRA LEONE)

In Sierra Leone agricultural development has been uneven with growth of plantation agriculture in some regions and either slow growth or stagnation of small farm production elsewhere. Because of these trends the rural labour force is rather mobile, both seasonally and over longer periods. Migrants who move away in search of wage labour often maintain their families in the rural areas and send earnings "home". At the same time, some rural households use their resources to finance members who have gone to the cities to study or establish businesses. This project will provide a quantitative assessment of the volume and economic impact of internal migration and associated flows of remittances and savings on rural and urban areas in Sierra Leone. Researchers will analyze the direction of net flows to households with different characteristics, and detail the determinants and uses of remittance income.

/INTERNAL MIGRATIONS/ - /REMITTANCES/ /SAVINGS/ /MIGRANT WORKERS/
$88200 24 months
-NJALA UNIVERSITY COLLEGE, FREETOWN, SL

82-0143 (SS)
TRADE AND DEVELOPMENT (THAILAND)

In common with many other developing countries, Thailand is currently assessing its trade policy. To date there have been a number of enquiries into selective aspects of Thailand's trade policy, with IDRC conducting analyses on specific sectors and industries. This project will fill a major gap by providing a comprehensive analysis of the impact of Thai trade policy both on the economy as a whole, and on key industries. Researchers will estimate the impact of general and specific policy measures on prices, output and employment; and trace government intervention in trade in the agricultural, mining and manufacturing sectors, in terms of exchange rate policy, export taxation and restrictions on imports.

/TRADE POLICY/ - /INTERNATIONAL TRADE/ /TRADE VOLUME/ /EMPLOYMENT/
/PRICES/ /TRADE DEVELOPMENT/
$89000 24 months
-SOCIAL SCIENCES ASSOCIATION OF THAILAND, BANGKOK, TH

82-0144 (AFNS)
RAPESEED (CHINA)

Rapeseed is China's second most important edible oil crop (after groundnut). Despite yield increases of 200 percent since 1949, China still cannot produce enough edible oil to meet its relatively modest demands. The purpose of this project is to breed new varieties of rapeseed that yield well; have appropriate maturity lengths for each cropping system; give good yields of high quality edible oil; and provide a good quality residual cake for animal feed. China is a large country with many different climatic zones, and the required characteristics of the improved rapeseed cultivars will differ between zones. Thus three institutes will be doing research in respect of a particular geographical area and with particular varieties of rapeseed (Brassica campestris or Brassica napus).

/rapeseed/ - /PLANT BREEDING/ /GENETIC IMPROVEMENT/ /CROP YIELD/
/CULTIVATION SYSTEMS/ /HYBRIDIZATION/ /FEED/
$550900 36 months
-MINISTRY OF AGRICULTURE, BEIJING, CN

82-0145 (OPE)
AGRICULTURAL RESEARCH RESOURCE ALLOCATION (CAMEROON)

Results of studies on resource allocation in agricultural research in Asia, Africa and Latin America have shown that often resources are poorly and unevenly distributed. In Cameroon, where the growth rate in the agricultural sector is the highest in Africa (3.8 percent per year), a greater number of resources will have to be put towards agricultural research. This project authorizes a short study of all human and financial resources currently used for agricultural research in Cameroon. The results of the study will be called to the attention of Cameroon government officials and policymakers at a seminar, once the research is completed.

/RESOURCES ALLOCATION/ - /AGRICULTURAL RESEARCH/
$21228 6 months
-INSTITUT PANAFRICAIN POUR LE DEVELOPPEMENT (IPD), DOUALA, CM

82-0146 (SS)
INTEGRATED FAMILY PLANNING (BANGLADESH)

Many Asian countries are concerned with high rates of population growth, especially Bangladesh, which has one of the highest. In attempting to meet both population and development goals more effectively and efficiently, Bangladesh has integrated population and development activities. This project will analyze the demographic and socioeconomic impact of various types of integrated family planning programs in Bangladesh and compare their effectiveness. The focus of the project will be upon variations in degree and kind of integration and between publicly and privately administered programs. Researchers will examine differences in organizational aspects and community participation; and determine which development activities lend themselves most readily to integration with family planning.

/FAMILY PLANNING PROGRAMMES/ - /EVALUATION/ /INTEGRATED APPROACH/
/COMMUNITY DEVELOPMENT/
$53800 18 months
-JAHANGIRNAGAR UNIVERSITY, DHAKA, BD

82-0148 (SS)
INFORMAL SECTOR ENTERPRISES (PERU) - PHASE I

Informal employment activities, which include low-productivity self-employment and employment in family-type enterprises, provide the livelihood of a large part of the population in Latin American and other Third World cities. The recent growth of the informal economy in Lima, Peru has been the most important urban phenomenon of the last few decades. This project will analyze the socioeconomic characteristics of informal-sector enterprises in Lima. Researchers will assess the composition of the informal-sector output by type and sector of economic activity; examine links with the formal employment sector; estimate the significance of the informal sector in the urban economy; and make policy recommendations designed to improve prospects of development in the informal sector.

/INFORMAL SECTOR/ - /COMMERCIAL ENTERPRISES/ /SIZE OF ENTERPRISE/
/EMPLOYMENT/
$180000 18 months
-CENTRO DE ESTUDIOS PARA EL DESARROLLO Y LA PARTICIPACION (CEDEP), LIMA, PE

82-0149 (SS)
AGRICULTURAL COOPERATIVES DEVELOPMENT (ZIMBABWE)

The government of Zimbabwe has identified agricultural development as its highest priority and is fostering cooperative efforts in this. Many different forms of cooperation have emerged in rural Zimbabwe, but it is unclear to the government what the advantages and disadvantages each are. This project will analyze the different forms to determine the most effective ones for the government to promote--ones that will increase agricultural production and improve living standards among peasant farmers. Researchers will examine the contribution that cooperation has made to innovations in agricultural production and to solving labour shortages; level of extension service provided through cooperatives; and the contribution of cooperative membership to easier availability of credit, and more efficient marketing.

/AGRICULTURAL COOPERATIVES/ - /AGRICULTURAL PRODUCTION/ /AGRICULTURAL EXTENSION/ /COOPERATIVE FARMING/
$50000 15 months
-ASSOCIATION FOR APPROPRIATE TECHNOLOGY, HARARE, ZW

82-0150 (HS)
SCHISTOSOMIASIS (KENYA)

Schistosomiasis -- a parasitic disease transmitted through contaminated water that involves snails as an intermediate host -- remains one of the leading causes of morbidity and mortality in the developing world, despite tremendous advances in recent years in technology related to the diagnosis, treatment, and control of transmission of the disease. A failing of many schistosomiasis control programs has been the lack of involvement and support of the local communities. This project will evaluate the effectiveness of an innovative, community-based approach to schistosomiasis control in rural Kenya. Villagers will be invited to participate fully in the planning, organization and implementation of interventions such as health education, improvements in water supply and sanitation systems, and improvements in sanitary practices.,

/SCHISTOSOMIASIS/ - /DISEASE TRANSMISSION/ /SANITATION/ /WASTE DISPOSAL/ /HEALTH EDUCATION/ /WATER UTILIZATION/
$183900 36 months
-KENYA MEDICAL RESEARCH INSTITUTE, NAIROBI, KE

82-0151 (SS)
AGRICULTURAL DEVELOPMENT RESEARCH PROGRAM (NEPAL) - PHASE I

The Agricultural Projects Service Centre (APROSC) is an autonomous, quasi-governmental institution intended to undertake project identification, formulation, appraisal, monitoring, and related training in the Nepalese agricultural sector. The need for an independent research capacity, together with the prospects of the professional support from the Agricultural Development Council (A/D/C), encouraged APROSC to organize the Research and Planning Unit (RPU). With sufficient professional social science capacity and secure research funding RPU could undertake a systematic research program with a long term perspective to address the problems of agricultural and rural development in Nepal. This project will provide research funds to put RPU in a position to initiate such a research program.

/AGRICULTURAL RESEARCH/ - /RESEARCH PROGRAMMES/ /RESEARCH RESULTS/ /INFORMATION EXCHANGE/
$50000 9 months
-AGRICULTURAL DEVELOPMENT COUNCIL (ADC), NEW YORK, US

82-0152 (IS)
INFORMATION SERVICES IN AGROFORESTRY - PHASE II

Phase I of this project permitted ICRAF (International Council for Research in Agroforestry) to set up in Nairobi a question-and-answer service to deal with scientific and technical questions from agroforestry research institutions and scientists, particularly those involved in cooperative research with ICRAF. Phase II will continue for a further two years support for this information service. In maintaining this information service, ICRAF will draw on all appropriate sources of information in the world and gradually build a collection of material for which there is a demonstrated need.

/AGROFORESTRY/ - /INFORMATION SERVICES/
$261500   24 months
-INTERNATIONAL COUNCIL FOR RESEARCH IN AGROFORESTRY (ICRAF), NAIROBI, KE

82-0153 (SS)
REGIONAL DEMAND FOR YAMS (NIGERIA)

Yams are the traditional staple food for the people of eastern Nigeria. This project will investigate the role of the yam in the production and consumption patterns of eastern Nigerian households in order to test the view that yams are an inferior good that is costly to produce which will gradually disappear from production and consumption patterns. Researchers wish to determine if research investments to improve the productivity and market availability, and reduce costs of production of yams is appropriate. Information will be collected on prices; incentives affecting production and marketing/consumption of yams; and patterns of consumption and use.

/SWEET POTATOES/ - /DEMAND/ /FOOD CONSUMPTION/ /MARKETING/ /PRICES/
/ECONOMETRIC MODELS/
$188000   26 months
-UNIVERSITY OF NIGERIA, NSUKKA, NG

82-0154 (AFNS)
BIOLOGICAL PEST MANAGEMENT (INDIA)

Locust and grasshopper infestations of valuable croplands in northwest India and northern Pakistan cause excessive damage annually. To date, the only effective way to combat the problem is to apply costly, imported, pest control chemicals. A microorganism of the order Microsporidia, called Nosema locustae, has shown potential as a biological control agent for grasshopper population management in Western Canada and the United States. This project will survey and identify the indigenous microsporidian parasites that are endemic to local grasshopper and locust populations in India, and establish a tissue culture technique for the production of microsporidian parasites, useful as biological control agents for grasshopper and locust pest management in India. Researchers will conduct field trial experiments and develop a package of practices for pest management that will be effective and acceptable, both ecologically and economically.

/PEST CONTROL/ - /BIOLOGY/ /PESTS OF PLANTS/ /PESTICIDES/ /PARASITES/
/COST ANALYSIS/
$128100   36 months
-NAGPUR UNIVERSITY, NAGPUR, IN

82-0155 (HS)
ANTICONCEPTIVE TECHNOLOGY - ICCR (INDIA) - PHASE III

Phase I of this project has demonstrated that it is possible to immunize a person against a specific hormone in the body and counteract its action in maintaining a pregnancy. Phase II conducted laboratory and animal tests on modifications of the original antipregnancy vaccine, which uses human chorionic gonadotropin (HCG) as the primary antigen. An alternate vaccine, based on ovine luteinizing hormone (OLH), was also tested in phase II. In phase III researchers will recommend which vaccine preparation should be used in long-term clinical trials. Researchers will develop quality control procedures; continue toxicity tests; and conduct closely monitored clinical pharmacology trials in tubally-ligated women to evaluate antibody response and side effects.

/CONTRACEPTION/ - /IMMUNIZATION/ /VACCINES/ /TOXICITY/
$711320   36 months
-POPULATION COUNCIL, NEW YORK, US
-NATIONAL INSTITUTE OF IMMUNOLOGY (NII), NEW DELHI, IN

82-0156 (IS)
MINICOMPUTER SOFTWARE DEVELOPMENT (BRAZIL)

Brazil has aggressively promoted the development of a national computer industry, and currently minicomputers and microcomputers are being developed, manufactured, and supported by Brazilian firms. This project will assist the Brazilian National Library of Agriculture (BINAGRI) in developing and integrated system for managing information on a Brazilian-made minicomputer. Project staff will ensure that the system designed will be functionally compatible with ISIS, MINISIS, and other internationally-used information systems software, and also ensure that the system can support the use of existing international standards for bibliographic information. Project staff will plan for the continuing maintenance and exploitation of the system within Brazil, and eventually elsewhere.

/COMPUTER PROGRAMMES/ - /SYSTEMS DESIGN/
$326950   36 months
-MINISTERIO DE AGRICULTURA, BRASILIA, BR

82-0157 (SS)
TECHNOLOGICAL CAPABILITY IN OIL REFINING (SIERRA LEONE)

For the least developed countries the accumulation of a technological capacity is necessary for sustained industrial development. Until recently it was believed that technological capacity would be acquired as part of technology transfer arrangements, however, it is increasingly apparent that the recipients of transferred technology continue to remain dependent on the suppliers. In order to ensure technological self-reliance, recipients in technology transfer transactions must acquire technological skills themselves. This project will investigate the extent to which an indigenous technological capability has been developed in the Sierra Leone oil refinery. Specifically, researchers will investigate the degree to which technological capacity has increased during the life of the Sierra Leone Oil Refinery, and identify the conditions which have promoted or retarded the learning process.

/REFINING/ - /TECHNOLOGY TRANSFER/ /SELF-RELIANCE/ /PETROLEUM REFINERIES/ /PETROLEUM ENGINEERING/ /PETROLEUM INDUSTRY/
$47000   18 months
-NJALA UNIVERSITY COLLEGE, FREETOWN, SL

82-0158 (IS)
SOUTH PACIFIC INFORMATION CENTRE (PIC)

The development process has been hampered on the islands of the South Pacific due to smallness in population size and vastness in area. One major difficulty facing these islands is their lack of mechanisms to share the results of research that could well be applied throughout the region. This project will establish at the regional level, a bibliographic centre to be called the Pacific Information Centre (PIC) and, at the country level, national focal points that will interact with PIC. Together, through a cooperative networking arrangement, they will serve as the information resource base for the region. The project will allow for sharing of information and access by the individual countries to the collective resource of publications arising from research activities in the region.

/PACIFIC REGION/ - /INFORMATION SERVICES/ /OCEANIA/ /ISLANDS/ /BIBLIOGRAPHY/ /PUBLICATION/
$372000 36 months
-UNIVERSITY OF THE SOUTH PACIFIC, SUVA, FJ

82-0159 (HS)
DIARRHEAL DISEASES PROGRAM (GLOBAL) - PHASE II

In most developing countries acute diarrheal diseases continue to be a leading cause of death in infants and young children. Phase I of this project has supported the World Health Organization's global program for the control of diarrheal diseases (CDD). Phase II will provide continued support for CDD and its activities which include the control of diarrheal diseases at the national level by developing strong service components and training and research in the development of new drugs, vaccines, and diagnostic tools.

/diarrhea/ /DISEASE CONTROL/ /HEALTH SERVICES/ /HEALTH EDUCATION/
$450000 24 months
-WORLD HEALTH ORGANIZATION (WHO), GENEVA, CH

82-0160 (HS)
RURAL SANITATION RESEARCH (KENYA)

Lack of basic sanitary facilities and hygienic practices continues to produce a high incidence of disease in developing countries, particularly in the rural areas. Conventional pit latrines are to provide safe, low-cost excreta disposal in rural areas. However, when these latrines are constructed in soil with high water tables, the latrines remain full of water creating a septic, hazardous condition. The government of Kenya is interested in alternative latrine models that are designed to overcome these environmental limitations. This project will evaluate new appropriate sanitation technologies through a program of hjealth education and community participation in a Kenyan village.

/SANITATION/ - /WASTE DISPOSAL/ /ENGINEERING DESIGN/ /EVALUATION/ /HEALTH EDUCATION/ /SOCIAL PARTICIPATION/ /COMMUNITY DEVELOPMENT/
$91070 24 months
-MINISTRY OF HEALTH, NAIROBI, KE

82-0161 (FAD)
INTERNATIONAL FOUNDATION FOR SCIENCE

The International Foundation for Science (IFS) was created to support young individual Third World scientists working in the developing regions of the world on problems related to the needs of their country or region. IDRC's contribution will enable the IFS to support 20 - 30 young scientists involved in research work in their own countries and allow the Centre to maintain its support as it encourages and contributes to the development of indigenous scientific human resources in the Third World.

/SCIENTIFIC COOPERATION/ - /TRAINING ASSISTANCE/
$250000 12 months
-INTERNATIONAL FOUNDATION FOR SCIENCE, STOCKHOLM, SE

82-0162 (HS)
WATER-PUMPING TECHNOLOGY (MALAYSIA) - PHASE II

For the past six years, IDRC has been supporting research on the development of more effective pumping systems for rural water supplies. Phase I of this project tested and refined a plastic piston pump developed at the University of Waterloo (Canada) which could be manufactured and maintained at the village level using local resources in Malaysia. Phase II will develop a small-scale handpump fabrication unit to produce handpumps and to utilize the experience gained to evaluate the technical and economic viability of establishing a full-scale commercial unit for mass production in Malaysia. Specifically the project will conduct development work in the methods of fabrication of handpumps to improve quality as well as production efficiency; identify problems in the adoption of this technology; determine costs; and develop appropriate manuals.

/PUMPS/ - /ENGINEERING DESIGN/ /MANUFACTURING/ /MANUAL/ /APPROPRIATE TECHNOLOGY/
$297500 36 months
-UNIVERSITY OF MALAYA, KUALA LUMPUR, MY

82-0163 (HS)
Pneumoconioses (Tunisia)

High levels of dust in the mines of Tunisia have led to pneumoconiosis, or lung disease caused by dust, among some of the 19,000 workers in the mining industry. A preliminary probe into this occupational disease has revealed that many workers are affected by the conditions in mines. This project will study the incidence of silicosis among phosphate miners in Gafsa, Tunisia and will correlate the levels of dust in the mines with the morbidity rate, and will propose preventative measures.

/pneumoconiosis/ /working conditions/ /occupational safety/ /miners/
$162470 24 months
-Centre de la Prévention des Accidents du Travail et des Maladies Professionnelles, Tunis, TN
-McGill University. Faculty of Graduate Studies and Research, Montréal, Québec, CA

82-0164 (SS)
FISHERIES SOCIAL SCIENCE NETWORK (S.E. ASIA) - PHASE I

Capture fisheries and aquaculture are important sources of production, income, employment and nutrition in Southeast Asian countries. The limited information available on the economics of capture fisheries and aquaculture in Southeast Asia is indicative of a serious shortage of social scientists engaged in fisheries research in the region. Important social science research issues for fisheries development are not being fully addressed because of the lack of institutions with sufficient social science research skills. The purpose of this grant is to address this problem by providing funds for research and staff development to a network of national institutions to be fostered and coordinated by the International Centre for Living Aquatic Resources Management (ICLARM). Research program funding and training in fisheries economics will be provided to the network institutions.

/FISHERY ECONOMICS/ - /ORGANIZATION OF RESEARCH/ /AQUACULTURE/ /FISHERY RESEARCH/ /RESEARCH PROJECTS/
$268000 24 months
-INTERNATIONAL CENTRE FOR LIVING AQUATIC RESOURCES MANAGEMENT (ICLARM), MANILA, PH

82-0165 (IS)
SOUTH AMERICAN CAMELIDS INFORMATION SERVICE

South American camelids occupy area of approximately 5 million hectares in the High Andes of Peru, Argentina, Bolivia, Chile and Ecuador. In spite of the fact that these species are native to the region, their growth and even survival are threatened by many health problems which, due to an almost absolute lack of knowledge, prevent the development of these livestock. This project will enable the Institute for Wool Development, located in La Paz, Bolivia, and the Veterinary Institute of High Altitude and Tropical Research, located in Lima, Peru, to establish a specialized information analysis service on South American camelids (llama, alpaca, guanaco, vicuna). The project will promote knowledge of South American camelids and provide the informational support needed for research activities and practical applications.

/CAMELS/ - /ANIMAL PRODUCTION/ /INFORMATION SERVICES/ /THESAURUS/ /DIRECTORY/
$188130 24 months
-INSTITUTO VETERINARIO DE INVESTIGACIONES TROPICALES Y DE ALTURA (IVITA), LIMA, PE
-INSTITUTO DE FOMENTO LANERO (INFOL), LA PAZ, BO

82-0166 (SS)
MOBILITY WITHIN THE INFORMAL SECTOR (ECUADOR)

Ecuador's urban system is dominated by two large urban centres: the capital city, Quito, and the commercial port city, Guayaquil. Studies suggest that the concentration of economic activity and wealth in these two cities is increasing, as is the number of migrants moving to the cities seeking a better living. Despite considerable expansion of a number of economic activities, not enough employment has been generated in Quito, and Guayaquil to absorb this population growth. A large segment of the urban population has therefore had to find alternate employment in the traditional or "informal" sector, which includes low-productivity self-employment and employment in family-type enterprises. In this project researchers will describe occupational and spatial mobility within the informal sector; and analyze the implications of such mobility for the delivery of urban services to low-income groups and the design of policies aimed to improve their living conditions.

/INFORMAL SECTOR/ - /OCCUPATIONAL MOBILITY/ /SOCIAL MOBILITY/ /SPATIAL ANALYSIS/ /URBAN PLANNING/
$57500 18 months
-PONTIFICIA UNIVERSIDAD CATOLICA DEL ECUADOR (PUCE), QUITO, EC

82-0167 (SS)
EVALUATION OF A TEACHER TRAINING INSTITUTE (LIBERIA)

Many developing countries have sought to answer the urgent need for adequately trained teachers in rural areas by designing a number of innovative training schemes, including in-service and specially-designed courses. In Liberia, two teacher training institutes have been established to conduct such programs, the Zorzor Institute and the Kakata Institute. Because of the potential importance of these institutes to the improvement of education in Liberia, and the costs of their operations, the government is concerned that the quality and impact of their work be evaluated. This project will assess the activities of the Zorzor Rural Teacher Training Institute and make recommendations to the Ministry of Education on the further development of teacher training in Liberia.

/TEACHER TRAINING/ - /EVALUATION/ /TEACHERS/ /COLLEGES OF EDUCATION/ /CURRICULUM/ /EDUCATIONAL INNOVATIONS/
$29500 18 months
-UNIVERSITY OF LIBERIA, MONROVIA, LR

82-0168 (SS)
OSSREA SUPPORT (EAST AFRICA)

The Organization for Social Science Research in Eastern Africa (OSSREA) has been developed by prominent social scientists from Kenya, Uganda, Ethiopia and Tanzania. The establishment of OSSREA is an important step towards improvement of the general research environment for social science in East Africa. This project provides start-up support for OSSREA that will cover the costs of certain administrative and communication requirements; finance a regional workshop on social science priorities for the region; and contribute funds for research review activities to involve and benefit recipients of the IDRC Small Grants competition in the region.

/SOCIAL RESEARCH/ - /ORGANIZATION OF RESEARCH/
$47200 12 months
-ORGANIZATION FOR SOCIAL SCIENCE RESEARCH IN EASTERN AFRICA (OSSREA), ADDIS ABABA, ET

82-0169 (SS)
THE AGED IN THE PHILIPPINES

The topic of aging and its social, economic and demographic consequences has been studied mainly in developed countries but its growing relevance to developing societies, where the proportion of the aged is rapidly increasing, is currently being felt. In the Philippines the aged represent an increasing presence and will continue to do so as a result of slowly but constantly declining fertility and mortality rates. This project will investigate the status of the aged in modern Philippine society and assess the adequacy of public policies and programs designed to address their needs. Researchers will obtain information on the social, economic and demographic characteristics of the aged; status of the aged within the family; and changing attitudes towards the aged.

/AGED/ - /LIVING CONDITIONS/ /ATTITUDES/ /CARE OF THE AGED/ /SOCIAL CHANGE/ /TRADITIONAL CULTURE/
$45400 24 months
-UNIVERSITY OF THE PHILIPPINES AT LOS BANOS (UPLB), LOS BANOS, PH

82-0170 (FAD)
LIVESTOCK DEVELOPMENT - GROUP TRAINING WORKSHOP (KASETSART, THAILAND)

Asian livestock is often the main, if not the only, source of cash income for small holders and landless farmers. The extent to which livestock will maintain and enhance its contribution to income, employment and food production in the rural economies of Asia will depend to a large extent on the capacity of policymakers to understand the functioning of the rural livestock sector. This project will provide support for the Kasetsart University, Thailand, to organize a one month regional training workshop on the socioeconomics of livestock in Asia. The purpose of the workshop is to create a body of social scientists with professional interests in livestock issues, and enhance the ability of these scientists to formulate, design, execute and report upon findings of original research on these issues.

/LIVESTOCK/ - /ANIMAL PRODUCTION/
$66080 6 months
-KASETSART UNIVERSITY, BANGKOK, TH

82-0171 (AFNS)
UPLAND AFFORESTATION (COLOMBIA)

The acute shortage of trees in the highlands of the Andean region was brought about by the cutting of the natural forest to satisfy basic human needs -- cooking, heating and shelter. It is essential to establish man-made plantations to meet the demand for firewood and construction timber. The purpose of this project is to grow trees on high altitude lands in Colombia which are unable to sustain crops or animals. Researchers will test and select tree species suitable for the establishment of forest plantations in the upland areas of the Colombian Andes. They will investigate and test various plantation techniques to identify those most appropriate for successful plantation establishment.

/AFFORESTATION/ - /SILVICULTURE/ /ANDEAN REGION/ /TREES/ /PLANTING/
$208600 36 months
-CORPORACION NACIONAL DE INVESTIGACION Y FOMENTO FORESTAL (CONIF), BOGOTA, CO

82-0172 (SS)
SPACE SCIENCE INFRASTRUCTURE REVIEW (MEXICO)

Science planning in Mexico has principally been in the hands of administrators and politicians with the result that there is both confusion and considerable waste of resources. This project will permit the examination of the past policies and current status of space research in Mexico from the point of view of scientists involved in the process. Specifically the project will establish the present and future manpower and training requirements for the space sciences; clarify the policy choices facing the government and educational community; and show how this study could be helpful to other developing countries faced with the same issues.

/SPACE SCIENCES/ - /MANPOWER NEEDS/ /GOVERNMENT POLICY/ /policy making/
$57700 12 months
-INSTITUTO DE INVESTIGACIONES EN MATEMATICAS APLICADAS Y SISTEMAS (IIMAS), MEXICO, MX

82-0173 (AFNS)
PROSOPIS (SUDAN) - PHASE II

Trees of the genus Prosopis are believed to be extremely drought-tolerant. The general objective of phase I of this project was to replenish the depleted forests of the Sahel by introducing ecologically well adapted species and varieties of Prosopis that combine sufficient hardiness with maximum productivity. During phase I, several varieties of nine species of Prosopis were planted in screening trials at four sites in the Sudan. In phase II researchers will study the growth rates and productivity of promising species and varieties in terms of both fuelwood and pod production; investigate methods for the large-scale establishment of Prosopis by plantation and other means; and continue studies begun in phase I on the potential of Prosopis pods as a source of animal nutrition.

/REFORESTATION/ - /TREES/ /ARID ZONE/ /SILVICULTURE/ /FEED/ /ANIMAL NUTRITION/ /FUELWOOD/
$229000 36 months
-MINISTRY OF AGRICULTURE, FOOD AND NATURAL RESOURCES, WADMEDANI, SD

82-0174 (AFNS)
GROUNDNUT SHELLERS/STRIPPERS (THAILAND) - PHASE II

Thai farmers sell their groundnut crops unshelled immediately after harvest partly because they do not have appropriate shelling machines. In phase I three groundnut sheller prototypes, that appear technically suited for Northern Thailand, were developed. A survey, carried out at the beginning of phase I, indicated a need for groundnut strippers. In phase II researchers will determine what groundnut strippers exist in Thailand, their advantages and disadvantages, and test, modify and evaluate them under local conditions; construct, test, modify and evaluate comb and drum prototypes from India and a stripper from China; modify, test and evaluate an IRRI (International Rice Research Institute) rice thresher for use as a groundnut stripper; and continue field testing and evaluating of the rubber tire sheller, wooden paddle sheller and the revolving stone sheller developed in phase I.

/GROUNDNUTS/ - /FOOD PROCESSING/ /AGRICULTURAL MACHINERY/ /ENGINEERING DESIGN/ /AGRICULTURAL EXTENSION/
$179100 36 months
-KHON KAEN UNIVERSITY, KHON KAEN, TH

82-0175 (SS)
URBAN SANITATION SERVICES (TANZANIA)

Recent rates of urban growth throughout Africa have been exceptionally high, and difficult problems of urban policy and management have emerged. Problems of urban management have become particularly severe in Tanzania, where reorganization of urban government and economic constraints have combined to damage delivery of urban services. This project will focus on a key service, sanitation for the urban poor, and study one of the largest cities in Tanzania: Arusha, in which deterioration of service has been particularly evident. The objective of the project is to improve management and delivery of sanitation services to the urban poor in Arusha. Researchers will evaluate present delivery of sanitation services; assess organizational and policy problems; and determine training requirements.

/SANITATION SERVICES/ - /URBANIZATION/
$25000 12 months
-INSTITUTE OF DEVELOPMENT (IDM), MZUMBE, TZ

82-0176 (AFNS)
POSTHARVEST SYSTEMS RESEARCH AND DEVELOPMENT (S.E. ASIA) - PHASE III

The Southeast Asian Cooperative Postharvest Research and Development Program (S.E.A.PHRAD) continues to be an integral part of Southeast Asia's development of new technology and improved scientific and technological expertise to reduce losses in national postharvest grains industries. S.E.A. PHRAD aims at developing post-production capability in five countries: Indonesia, Malaysia, the Philippines, Singapore, and Thailand. Phase III of this project will continue to identify problems affecting the postharvest systems; foster cooperation among interested parties for devising new and improved postharvest systems; strengthen institutional facilities; and provide information on post-production systems. During Phase III, increasing emphasis will be given to the problems of the maize and groundnut sectors while maintaining the rice sector as first priority.

/post-harvest systems/ - /ORGANIZATION OF RESEARCH/ /SCIENTIFIC COOPERATION/ /TECHNICAL ASSISTANCE/
$378600 36 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), SINGAPORE, SG

82-0177 (SS)
COMMUNICATION INSTITUTIONS AND POLICIES (CHILE)

The objective of this project is to describe and analyze the institutions, financial and legal structures, and operations of the mass media in Chile, including radio, television, the press, and magazines and publications of the Catholic Church and the major political parties. This project forms part of a series of communication research studies supported by IDRC, intended to analyze the institutions and policies of national mass media, and to clarify their relationship to social change, development and to the participation of the population in those processes. Researchers will attempt to develop recommendations for changes in the media that might promote their more effective use within the development process, principally through the promotion of increased social participation by the general population.

/MASS MEDIA/ - /SOCIAL PARTICIPATION/ /GOVERNMENT POLICY/ /LEGISLATION/ /ADMINISTRATIVE ASPECTS/
$31600 12 months
-CENTRO DE INDAGACION Y EXPRESION CULTURAL Y ARTISTICA (CENECA), SANTIAGO, CL

82-0178 (AFNS)
GOAT PRODUCTION SYSTEMS (PERU)

Goat production in Peru is associated with low-income farmers for whom the animal is a source of food and income. Researchers believe goat production and productivity can be improved by introducing modifications to feeding, management and health practices. The purpose of this project is to develop improved goat production systems suited to the ecological and socioeconomic conditions in the northern coastal areas of Peru. The project will increase the knowledge of prevalent goat production systems and their constraints; evaluate the nutritional quality and availability of rangelands, crop residues and by-products, and cultivated pasture species in order to design improved feeding subsystems; conduct limited studies to evaluate goat crossbreeds; and evaluate the health of goats in prevalent production systems, and design and test adequate health controls.

/GOATS/ - /ANIMAL PRODUCTION/ /ANIMAL HUSBANDRY/ /FORAGE CROPS/ /ANIMAL NUTRITION/ /FEED/
$237200 36 months
-INSTITUTO NACIONAL DE INVESTIGACION Y PROMOCION AGRARIA (INIPA), LIMA, PE

82-0179 (AFNS)
TROPICAL PASTURE EVALUATION (COLOMBIA)

Animal production in Colombia is low due to technological limitations in the feeding system. Since land costs are low and pastures are the cheapest source of nutrients for animals, the strategy of this project will be to improve animal production through better diets of grasses and legumes that are rich in nutrients and withstand grazing. The project will compare different grass-legume associations and improved grass species with the prevalent pasture species, for yield, persistence, nutritive value and capacity to sustain animal production; determine seasonal variations in the nutritive quality of pastures and relate them to animal performance; and train Colombian technicians in pasture production and utilization.

/FORAGE CROPS/ - /GENETIC IMPROVEMENT/ /GRASSES/ /LEGUMINOSAE/ /GRAZING/ /ANIMAL PRODUCTION/
$127000 36 months
-INSTITUTO COLOMBIANO AGROPECUARIO (ICA), BOGOTA, CO

82-0180 (AFNS)
TROPICAL PASTURE EVALUATION (PANAMA)

The tropical pastures network coordinated by the International Centre for Tropical Agriculture (CIAT) is designed to support national programs in their need to test improved forage germ plasm. This project will provide the recipient institution, Research Institute of Panama for Agriculture and Livestock (IDIAP), with the means to evaluate new germ plasm generated by its own pasture program and that of CIAT. Specifically, researchers will evaluate and select pasture germ plasm that, due to its yield, seasonality, nutritive value and persistence, is adapted to the production systems prevalent in Panama. The project will organize a continuous system for the introduction and evaluation of new pasture germ plasm; train Panamanian technicians in forage production; and recommend to farmers the best pasture germ plasm adapted to different environments.

/FORAGE CROPS/ - /GENETIC IMPROVEMENT/ /GRASSES/ /LEGUMINOSAE/ /GRAZING/
$78600 36 months
-INSTITUTO DE INVESTIGACION AGROPECUARIA DE PANAMA (IDIAP), PANAMA, PA

82-0181 (SS)
QUALITATIVE RESEARCH IN EDUCATION (LATIN AMERICA)

The large-scale expansion of primary education has been the focus of much attention in educational research and development activities in the last decade. Most research on this expansion has been quantitative in nature, for example, the counting of schools and teachers, etc. However, more attention is now being paid to the nature of the schooling process itself, that is the quality of education provided. In Latin America, this "qualitative" research has been the focus of an informal network of several institutions. The purpose of this project is to strengthen the ability of this network to develop further the theories, concepts, and methods associated with this research; to train young researchers; to publish and disseminate research findings; and to develop programs and policies for improved teacher training.

/PRIMARY EDUCATION/ - /TEACHER TRAINING/ /ORGANIZATION OF RESEARCH/ /INFORMATION EXCHANGE/ /RESEARCH RESULTS/
$116200 24 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

82-0182 (SS)
COPPER POLICY (PERU)

Peru's civilian government has renewed interest in copper production and exports because of increasing difficulties which manufactured products have faced in the world market. The purpose of this project is to undertake a preliminary examination of national policy toward the copper sector in Peru with the aim of exploring alternative ways of developing the sector. Researchers will analyze the current production and marketing structure of the copper sector; show the relative importance of current world technology and investment trends on the present and future national decision making; and propose areas where policy could improve the development contribution of the copper sector in Peru.

/COPPER/ - /INDUSTRIAL POLICY/ /INDUSTRIAL INVESTMENTS/ /EXPORT VOLUME/
/SUPPLY AND DEMAND/ /TECHNOLOGICAL CHANGE/ /INTERNATIONAL MARKET/
$69000 15 months
-CENTRO DE ESTUDIOS Y PROMOCION DEL DESARROLLO (DESCO), LIMA, PE

82-0183 (IS)
PROMOTION AND USER STUDY - AGRINDEX

AGRIS (International Information System for Agricultural Sciences and Technology) is a worldwide information system which collects and distributes agricultural information and facilitates the exchange of information. The product of AGRIS is Agrindex, the printed index to the material that is reported to AGRIS by more than 100 participating countries. This project will enable up to 25 agricultural universities and colleges in developing countries to receive Agrindex for an evaluation and trial period of two years. These universities and colleges will benefit from greater access to world agricultural literature and an increased local awareness of agricultural developments.

/AGRIS/ - /BIBLIOGRAPHY/ /PUBLICATION/ /INFORMATION SERVICES/
$28000 24 months
-FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO), ROME, IT

82-0184 (AFNS)
CROPPING SYSTEMS (DOMINICAN REPUBLIC)

Most agricultural research in the Dominican Republic has been conducted in experimental stations. There has been little contact with the majority of small farmers in the context of their social and economic conditions. The general objective of this project is to improve production and productivity of crops and cropping systems grown by small farmers in the southern and northern regions of the country. The project will study the relation between cropping systems and the biological and socioeconomic environment; generate technological alternatives for specific cropping systems adapted to the needs of the farmers and local conditions; conduct on-farm trials demonstrating the most promising intercropping systems, which include pigeon peas, maize, red common beans, plantains, yams, soybeans, peanuts, sweet potatoes, and cassava.

/CULTIVATION SYSTEMS/ - /CULTIVATION PRACTICES/ /CROP YIELD/
/INTERCROPPING/ /PIGEON PEAS/ /MAIZE/ /CASSAVA/ /BEANS/ /LEGUMINOSAE/
$316000 36 months
-CENTRO SUR DE DESARROLLO AGROPECUARIO (CESDA), SAN CRISTOBAL, DO

82-0185 (AFNS)
CROPPING SYSTEMS (SRI LANKA) - PHASE III

The Cropping Systems Program in Sri Lanka began in 1976 with IDRC funding. Phase I of the project carried out detailed studies and analyses of rainfed and tank-based partially irrigated cropping systems in the intermediate and dry zones of Sri with a view to developing technology to improve the production and income of small farmers. Phase II continued developing more productive and intensive cropping systems for these areas, with specific attention given to weed and insect control, plant nutrition and water management. The purpose of phase III is to extend the research and benefits to a greater number of farmers over a broader area of Sri Lanka. Researchers will develop the technology for potential cropping patterns in new locations; and compare effects of new, more intensive cropping patterns with existing less intensive patterns in terms of crop performance, soil properties and continued stability of production.

/CULTIVATION SYSTEMS/ - /CROP YIELD/ /CULTIVATION PRACTICES/ /AGRICULTURAL CREDIT/ /AGRICULTURAL MARKET/
$298700 36 months
-DEPARTMENT OF AGRICULTURE, PERADENIYA, LK

82-0186 (AFNS)
FOOD LEGUMES (INDONESIA)

The Indonesian Government has been concerned about legume production and, over the years, trained staff and research facilities were made available for legume research. However, operating funds were never available to support the legume work adequately. The purpose of this project is to increase indigenous production of soybean and mungbean in association with rice. Researchers will identify and develop legume cultivars that produce well under soil and climatic conditions after the harvest of lowland rice, as well as legume cultivars that perform well under the acid soil conditions of upland red yellow podzolic soils; and will ensure a supply of seeds of the promising lines for designated areas.

/LEGUMINOSAE/ - /SOYBEANS/ /BEANS/ /RICE/ /GENETIC IMPROVEMENT/ /PLANT BREEDING/
$234500 36 months
-CENTRAL RESEARCH INSTITUTE FOR FOOD CROPS, BOGOR, ID

82-0187 (AFNS)
MILLETS (INDIA) - PHASE II

Millets generally occupy land which is unsuitable for other cereal crops and are thus very important for farmers who subsist on marginal lands. Phase I of this project conducted plant breeding activities in India in an effort to increase the production of millets. Phase II will continue to meet the objectives set down in phase I, which are: to increase the grain production in the rainfed areas of India by developing varieties of millets for hilly regions, develop improved levels of resistance to diseases and pests, and develop grains of superior quality, including the elimination of any toxic factors. Researchers in phase II will make new selections from promising material; intercross the best material identified; and improve agronomic management practices.

/MILLET/ - /PLANT BREEDING/ /GENETIC IMPROVEMENT/ /CULTIVATION PRACTICES/ /CULTIVATION SYSTEMS/ /WEED CONTROL/
$435900 24 months
-INDIAN COUNCIL OF AGRICULTURAL RESEARCH (ICAR), NEW DELHI, IN

82-0188 (AFNS)
VEGETABLES (CHINA)

Although the extremely labour-intensive system of agriculture in China is highly productive, it is relatively inefficient by modern standards. Vegetable production in particular requires research. The purpose of this project is to increase production of Chinese cabbage, tomato, sweet potato, soybean and mungbean through improved production technologies, germ plasm, and scientific advice. Specifically, the project will collect local varieties of soybean and vegetables in Southern China; conduct field surveys of major diseases for assessment of economic damage and to recommend control practices; improve the yields and quality of the crops through plant breeding programs; and upgrade the expertise of Chinese scientists.

/VEGETABLES/ - /GENETIC IMPROVEMENT/ /PLANT BREEDING/ /PLANT DISEASES/
/SOYBEANS/ /TOMATOES/ /SWEET POTATOES/ /BEANS/
$381210   36 months
-ASIAN VEGETABLE RESEARCH AND DEVELOPMENT CENTER (AVRDC), BANGKOK, TH

82-0189 (AFNS)
AQUACULTURE (TURKEY) - PHASE II

Like fish ponds, reservoirs can be managed as a productive fishing enterprise. The main objective of phase I of this project was to develop a comprehensive plan for fish production in the Keban Reservoir in eastern Turkey. Researchers collected information on the physical, chemical and biological characteristics of the Keban Reservoir; on fish food organisms, fish species, and possibilities for establishing new fish stocks; and on the introduction of fish culturing techniques such as the use of floating cages. Further research is required to develop a functional cage culture technology and to test its practicality under the Keban conditions. In phase II researchers will continue feasibility testing of cage culture, primarily for carp; and design and construct a suitable fish hatchery to serve the stocking needs of the Keban Reservoir.

/FISH CULTURE/ - /FISH PRODUCTION/ /INLAND FISHING/ /RESERVOIRS/ /FISH/
/FISHERY DEVELOPMENT/
$205400   36 months
-GENERAL DIRECTORATE OF STATE HYDRAULIC WORKS, ANKARA, TR

82-0190 (AFNS)
FISH PARASITES (MALAYSIA) - PHASE II

The general objective of phase I of this project was to examine the diseases of cultured freshwater fish in peninsular Malaysia. The continual importation of fish fry infected with the parasite Lernaea has spread the parasite throughout Malaysia. In phase I researchers sought to collect, identify, and ascertain the effects of Lernaea, study its life cycle for control intervention, and develop effective measures. In phase II the project will continue work on fish parasites, especially to study the immune response of bighead carp (Aristichys nobilis) infected with Lernaea piscinae; identify and examine the incidence and life cycles of other fish parasites, particularly Monogenea; and identify and examine the incidence of selected bacterial pathogens.

/FISH CULTURE/ - /PARASITES/ /DISEASE CONTROL/
$170500   36 months
-UNIVERSITY PERTANIAN, SELANGOR, MY

82-0191 (AFNS)
INLAND FISHERIES (NEPAL)

Significant amounts of fish protein can be produced in rivers, lakes and reservoirs. New freshwater reservoirs are rapidly being built in Nepal. The newly created 220-hectare Kulekhani Reservoir is the first large one to be built in Nepal's hill region. Due to a low water temperature, fish growth rates will likely be low in the Kulekhani Reservoir. Cage culture (breeding fish in large cages) may be a way to increase fish production. The purpose of this project is to develop a program for the development and exploitation of the fisheries of Kulekhani Reservoir. Specifically, the project will make a detailed fisheries biology survey of Kulekhani Reservoir and test cage culture of selected species of carp and related species.

/FISHERY DEVELOPMENT/ - /RESERVOIRS/ /INLAND FISHING/ /FISH CULTURE/ /FISH PRODUCTION/
$251600 36 months
-MINISTRY OF AGRICULTURE, KATHMANDU, NP

82-0192 (AFNS)
MANGROVE (MALAYSIA)

The mangrove forests of Malaysia have contributed considerably to the socioeconomic development of the country, particularly coastal communities. Besides their economic value as timber and fuel, the mangroves are rich in fishery resources, and fishing activities are often centred in or around mangrove areas. In recent years, mangroves have been progressively clear-felled for conversion to other land uses, eg. for agricultural and industrial development. Relatively little is known of the effect of uncontrolled destruction of the mangroves. Nor is much known of how the organic materials of the mangroves contribute to coastal aquatic life. This project will assess the degree of dependence of fisheries on mangroves in Malaysia. Researchers will estimate how much organic matter is being exported into the adjacent coastal ecosystem, and how important this is to fishery productivity.

/COASTAL FISHING/ - /ECOLOGICAL BALANCE/ /ECOSYSTEMS/ /FORESTS/ /BIODEGRADATION/
$137000 36 months
-UNIVERSITI SAINS MALAYSIA, PENANG, MY

82-0193 (AFNS)
QUICKSET HEDGES (UPPER VOLTA)

To combat severe deforestation and soil erosion, Upper Volta began the "Village Woodlot Operation" in 1979. One of the difficulties has been to keep animals from grazing in the tree nurseries. Metal fences are too expensive for villagers and must be imported. However, it is possible to grow "live" fences, or dense hedges, from local shrubs, keeping them pruned to 1.5 meters. Animals cannot then enter nurseries and the plants are protected from wind erosion. The hedges create a favourable micro-climate to improve crop yields. Another benefit is the extra firewood obtained from prunings. This project to find the best species for live fences will be carried out at the experimental station near Ouagadougou. The long-term goals are to reduce the cost of maintaining village tree nurseries and to train young students in afforestation and forestry management.

/FOREST NURSERIES/ - /AFFORESTATION/ /FOREST MANAGEMENT/
$90100 36 months
-MINISTERE DE L'ENVIRONNEMENT ET DU TOURISME, OUAGADOUGOU, BF

82-0194 (AFNS)

LAND RECLAMATION (SUDAN) - PHASE II

In the Sudan, farmers abandon agricultural land near the Nubian Desert because crops and irrigation furrows are quickly buried by sand blowing from the desert. Phase I of this project has investigated the use of tree shelterbelts to protect land and agricultural crops from hot, dry winds and desert creep. Sufficient shelterbelts of adequate height and density have been established. In the second phase, researchers will study the effects of this protection on agricultural crop production. Differences in yield and quality of various agricultural crops when grown under sheltered and unsheltered conditions will be examined; and a preliminary evaluation of the economics of land reclamation and desert farming under protective tree plantations will be made.

/SHELTERBELT/ - /LAND RECLAMATION/ /AFFORESTATION/ /ARID ZONE/ /WATER REQUIREMENTS/ /AGRICULTURAL PRODUCTION/ /CROP YIELD/ /COST-BENEFIT ANALYSIS/
$226000 36 months
-MINISTRY OF AGRICULTURE, FOOD AND NATURAL RESOURCES, WADMEDANI, SD

82-0195 (AFNS)

TIMBER GRADING (ZIMBABWE)

The potential of one of Zimbabwe's most useful and renewable building resources - pine timber - has been largely ignored because of a lack of knowledge of its technical characteristics. The lack of suitable grading rules and basic design stresses for locally-produced pine timber has hampered its use in the construction industry. The general objective of this project is to encourage the use of local structural pine timber in low-cost housing programs in Zimbabwe by the development of design codes. The specific objective of the first phase of the project is to develop grading rules and associated strength properties for the timber.

/TIMBER/ - /WOOD TECHNOLOGY/ /CONSTRUCTION INDUSTRY/ /ENGINEERING DESIGN/ /TESTING/
$117900 18 months
-UNIVERSITY OF ZIMBABWE, HARARE, ZW

82-0196 (AFNS)

MECHANICAL GRAIN DRYERS (PHILIPPINES)

The problems of quantitative and qualitative losses in the rice postharvest sector of the Philippine rice industry still stem largely from the poor drying of the rice paddy within twenty-four to thirty-six hours after harvest. In the Philippines, sun drying is the predominant method of drying paddy because it is the cheapest. There is a lack of investment in mechanical drying technology by farmers, farmers' associations and millers. The objective of this project is to identify principal constraints to the adoption of mechanical drying technology for rice in the Philippines, and to recommend specific technical research and economic incentives to overcome the identified constraints.

/DRYING/ - /RICE/ /AGRICULTURAL EQUIPMENT/ /HARVESTING/ /STORAGE/ /GRAIN PROCESSING/ /COST-BENEFIT ANALYSIS/ /COSTS/
$27900 24 months
-NATIONAL POSTHARVEST INSTITUTE FOR RESEARCH AND EXTENSION (NAPHIRE), MANILA, PH

82-0197 (SS)
RURAL TECHNOLOGY ASSESSMENT (CHILE)

The growing relative poverty of many small farmers has resulted in a search for techniques which can be used by peasants to "fit" the resources they possess. The search for appropriate techniques is particularly urgent in Chile in order to support small farm production of traditional food consumption staples; to improve peasant incomes and welfare; and, to increase their market availability. The purpose of this project is to review and assess a number of technical experiments with small farmers in order to build a framework for their evaluation. Researchers will compare a number of promising techniques developed by the Agrarian Research Group (GIA) and establish a method of evaluation by which to judge their practical utility.

/APPROPRIATE TECHNOLOGY/ - /EVALUATION/ /RURAL AREAS/ /PEASANTS/ /FARM SIZE/ /FARMERS/
$98400 12 months
-GRUPO DE INVESTIGACIONES AGRARIAS (GIA), ACADEMIA DE HUMANISMO CRISTIANO, SANTIAGO, CL

82-0198 (AFNS)
FISH PARASITES (INDONESIA) - PHASE II

Parasitic fish diseases are posing a problem for breeders in Indonesia who cultivate fish for food. Until effective measures of control are devised and implemented, a serious decline in fish population is expected. The objective of phase I was to determine the most effective measures for the control of Lernaea and other parasitic infestations and diseases of fish species cultivated for food in Indonesia. An encouraging start has been made in phase I but more long-term research is required. Phase II will focus on other major fish parasites, with particular emphasis on Myxobobus; will evaluate suggested control measures from an economic and an operational viewpoint; and will examine several of the more important bacterial diseases in terms of their epidemiology and control.

/FRESHWATER FISH/ - /PARASITES/ /ANIMAL DISEASES/ /FISH CULTURE/ /VIRUSES/ /BACTERIA/
$341250 36 months
-CENTRAL RESEARCH INSTITUTE FOR FISHERIES, JAKARTA, ID

82-0199 (IS)
NATIONAL AGRIS CENTRE (PAKISTAN)

Pakistan began its contribution to AGRIS (International Information System for Agricultural Sciences and Technology) in 1978 but with its meagre resources, was only able to input a few documents relating to agricultural research in the country. This project will enable the Director of Agricultural Information of the Pakistan Agricultural Research Council (PARC) to strengthen its participation in AGRIS; establish at each of the four provinces of Pakistan a subcentre to enhance the capability to identify, collect and process national agricultural information; and provide information services to agricultural research workers in the country.

/INFORMATION SERVICES/ - /AGRIS/ /BIBLIOGRAPHY/
$237500 36 months
-PAKISTAN AGRICULTURAL RESEARCH COUNCIL (PARC), ISLAMABAD, PK

82-0200 (AFNS)
AQUACULTURE (EGYPT) - PHASE II

Aquaculture constitutes only 6 percent of the total fish production in Egypt. Rapid development of fish farming is necessary in view of the high demand for relatively cheap animal protein food sources. Researchers in phase I of this project developed experimental techniques for fish pen or enclosure culture and for floating cage culture. Phase II will continue research on developing effective methods of fish culture in selected inland waters. Specifically, researchers will refine cage culture systems for carp and tilapia in freshwater, and for seabass in brackishwater; develop further techniques for pen enclosures in brackishwater; evaluate nutritionally-balanced fish pellet developed in phase I; evaluate cage culture in a rural community with fisherman management; train several Egyptian researchers in aquaculture research practices; and do an economic analysis of the developed culture systems.

/FISH CULTURE/ - /EQUIPMENT/ /ENGINEERING DESIGN/ /FISH PRODUCTION/
/INLAND FISHING/ /FEED/
$298000 36 months
-INSTITUTE OF OCEANOGRAPHY AND FISHERIES (IOF), CAIRO, EG

82-0201 (SS)
PILOT COURSE ON TELEVISION (CHILE) - PHASE I

Long hours of television viewing have been shown to affect school achievement, reading abilities, and attitudes towards violence, sex, and other ethnic groups. The objective of this project is to design and implement a pilot course intended to teach school children in Chile about television and its effects. The pilot course will be for use by teachers of grades 4-5 of primary school and grades 10-11 of secondary school. Researchers will observe and assess the pilot course in terms of acceptance by teachers, use in the classroom, and reactions of students. Researchers will also determine whether the potential of the pilot course merits an additional stage of careful evaluation.

/TELEVISION/ - /CHILDREN/ /CHILD DEVELOPMENT/ /SCHOOL AGE POPULATION/
$11000 9 months
-CENTRO DE INDAGACION Y EXPRESION CULTURAL Y ARTISTICA (CENECA), SANTIAGO, CL

82-0202 (SS)
TECHNOLOGICAL CAPACITY AND NATIONALIZATION (GHANA)

Many developing countries embark upon nationalization to overcome the restrictive practices of multinational corporations or in response to political pressure with little thought as to the country's ability to operate and maintain the nationalized enterprises. It is suspected that the lack of local technological capabilities has been an important factor in the poor performance of nationalized industries in Ghana. This project will investigate the extent to which indigenous technological capability affects the performance of nationalized enterprises in Ghana. Researchers will determine the extent to which the industries studied are truly nationalized; and identify key factors that account for level of performance in the industries and what relationship these have to local technological capability.

/KNOW HOW/ - /NATIONALIZATION/ /PUBLIC ENTERPRISES/ /TECHNOLOGY TRANSFER/
$41300 12 months
-GHANA INVESTMENTS CENTRE, ACCRA, GH

82-0203 (SS)
AGRICULTURAL IRRIGATION SYSTEM DEVELOPMENT (NIGER)

After Niger experienced severe drought in the 1970s irrigation was seen as a means to increase agricultural production and to work towards food self-sufficiency. But the 1981-1982 drought was a setback for the country and massive amounts of food had to be imported. Some irrigation projects had been expensive and farmers did not always know how to apply the new techniques. The government now wishes to reevaluate the role of irrigation in Niger. This project will survey farmers in three agroclimatic zones near the Niger River Valley and compare the farm income, manpower requirements, and soil productivity of each. The cultivation systems to be studied are on irrigated land, rainfed land and alluvial plains near the river banks.

/CULTIVATION SYSTEMS/ - /AGRICULTURAL MANAGEMENT/ /AGRICULTURAL PRODUCTION/
$75000 36 months
-UNIVERSITE DE NIAMEY, NIAMEY, NE

82-0204 (SS)
PAMPA AGRICULTURE: TECHNICAL CHANGE AND POLICY (ARGENTINA)

Previous research undertaken by IDRC has established that during a period of about ten years, (1965-75), there was a profound change in the production structure of the Argentinian pampa, the principal agricultural area of Argentina, caused by the adoption of new production technology. Application of new agricultural technologies, coupled with efficient farm management techniques and pricing policies, offer farmers ways of increasing income and production. The objective of this project is to analyze alternative policies for the agricultural sector in Argentina's pampa region, with special reference to the role of technology.

/agricultural engineering/ /AGRICULTURAL POLICY/ /TECHNOLOGICAL CHANGE/
/AGRICULTURAL MECHANIZATION/
$10500 4 months
-CENTRO DE INVESTIGACIONES SOCIALES SOBRE EL ESTADO Y LA ADMINISTRACION (CISEA), BUENOS AIRES, AR

82-0205 (AFNS)
AFFORESTATION (TANZANIA) - PHASE II

In Tanzania, tree plantations have become a necessity not only for the production of fuelwood and small timber but also for the protection of people, animals and crops against desiccating winds and sandstorms. In Phase I of this project researchers sought to select adaptable tree species for the development of plantations to satisfy the need for wood products and to protect the environment. The forestry research staff have carried out some species trials and have done preliminary work on developing simple planting techniques. Work in Phase II will be a continuation of that begun in the first phase and an assessment of all experiments throughout the period.

/AFFORESTATION/ - /TREES/ /MANMADE FORESTS/ /ARID ZONE/ /SILVICULTURE/
$165000 36 months
-MINISTRY OF NATURAL RESOURCES AND TOURISM, DAR ES SALAAM, TZ

82-0206 (AFNS)
CASSAVA PROCESSING (COLOMBIA)

Colombia depends heavily on wheat imports to supply local demand for baked products. The Colombian Government is seeking ways to reduce wheat imports and one possibility being considered is the use of cassava flour in bakery products. This project will evaluate the technical and economic conditions required for the development of a rurally-based cassava flour industry in northern Colombia. The project will undertake a field-based systems study from cassava production through drying and milling to utilization by bakers and consumers. Researchers will adapt and develop equipment for small-scale, rural processing of cassava into flour; evaluate the influence of cassava varieties on bread-making qualities; and recommend and disseminate the results to farmers, food processors, and government agencies.

/CASSAVA/ - /FLOUR/ /GRAIN PROCESSING/ /MILLING INDUSTRY/ /PACKAGING/ /STORAGE/ /CONSUMER BEHAVIOUR/
$216600 24 months
-CENTRO INTERNACIONAL DE AGRICULTURA TROPICAL (CIAT), CALI, CO

82-0207 (IS)
National Agricultural Library and Documentation Centre (NALDOC)

Bangladesh has been contributing to AGRIS (International Information System for Agricultural Sciences and Technology) in a limited way since 1976, through the Bangladesh Scientific and Technical Documentation Centre (BANSDOC). From 1980, responsibility for AGRIS input was handed over to BARC (Bangladesh Agricultural Research Council). In 1980, BARC submitted a project document to the Government of Bangladesh for the establishment of a National Agricultural Library and Documentation Centre (NALDOC) to coordinate agricultural information activities in the country. However, it remained only a document on file, as funds were not made available to BARC for its implementation. This project will provide BARC with the necessary resources so that it can activate the work programs originally envisaged under the NALDOC proposal.

/INFORMATION SERVICES/ - /AGRIS/ /BIBLIOGRAPHY/.
$192600 36 months
-BANGLADESH AGRICULTURAL RESEARCH COUNCIL (BARC), DHAKA, BD

82-0208 (SS)
RESETTLEMENT PROGRAMS/LAND TENURE (CARIBBEAN)

During the last two decades there have been some important changes in the system of land tenure and ownership in sevral Caribbean territories - changes which appear to offer new opportunities for dealing more effectively with the problems of small scale agriculture. The Eastern Caribbean islands of Antigua and Montserrat have devised programs of resettlement of farm families on government-owned land. Despite the significant investments made by these countries in the purchase of land and its reallocation to small farmers, there is very little understanding of how these programs are working or the extent to which farmers are satisfied with land tenure arrangements. The purpose of this project is to describe and evaluate the resettlement/land tenure schemes of Antigua and Montserrat.

/LAND TENURE/ - /LAND SETTLEMENT/ /LAND OWNERSHIP/ /LEGAL ASPECTS/ /AGRICULTURAL PRODUCTION/
$57500 18 months
-UNIVERSITY OF THE WEST INDIES (UWI), BRIDGETOWN, BB

82-0209 (SS)
EVALUATION OF LITERACY PROGRAM (ECUADOR)

The fight against illiteracy unquestionably remains one of the most important areas of educational policy confronting governments in developing countries. In Latin America, Ecuador has been conducting an ambitious literacy program since 1980. An unusual feature of this program is its use of the psychosocial method of Paulo Freire which bases its teaching strategy on the use of themes linked to the illiterate person's experience and on the political conscientization of the individual regarding condition of social and economic oppression. This project will evaluate the impact of the literacy programs in Ecuador. The project will consist of a cognitive evaluation and a more general evaluation comprising individual and community outcomes attributable to the literacy campaign.

/LITERACY/ - /EVALUATION/ /EDUCATIONAL INNOVATIONS/
$51100 12 months
-INSTITUTO DE INVESTIGACIONES SOCIOECONOMICAS (INSOTEC), QUITO, EC

82-0210 (IS)
MULTIPERIOD BUDGETING - PERENNIAL CROPS (MULBUD) - PHASE II

The Multiperiod Budgeting and Economic Assessment of Perennial Crop Intercropping Systems (MULBUD) is a special purpose computer software program designed to assist in the economic analysis of agroforestry land use systems. Phase I of this project enabled the International Council for Research on Agroforestry (ICRAF), in collaboration with the Australian National University (ANU), to develop MULBUD as a suitable tool for obtaining basic economic data on intercropping of perennial tree crops at the farm level. The objectives of phase II are to enable ICRAF, in collaboration with ANU, to consolidate, improve and extend the use of MULBUD. Specifically, the second phase will incorporate lessons learned in phase I into a revised version of the software; publish a revised User Manual to reflect all changes; and provide for user training sessions.

/COMPUTER PROGRAMMES/ - /AGROFORESTRY/ /TREES/ /INTERCROPPING/ /SYSTEMS DESIGN/ /ECONOMIC ANALYSIS/
$69140 18 months
-INTERNATIONAL COUNCIL FOR RESEARCH IN AGROFORESTRY (ICRAF), NAIROBI, KE

82-0211 (SS)
THE IMPACT OF URBANIZATION ON PARTICIPATION BY LOW-INCOME WOMEN (BRAZIL)

International and national organizations are beginning to examine problems and conditions facing poor rural and urban women and to identify mechanisms to increase the participation of women in the development process. This project will examine the social and political participation that occurs among marginal urban women who have migrated from rural areas. Researchers will examine the impact of the urban experience on the political and social consciousness of women, with particular attention to their social condition and their roles in the process of social change. The project will seek to identify the issues and motives that lead women to participate actively in community associations; understand the role of formal and nonformal education in changing social values, in political socialization and in participation; and examine the quality of health services received by marginal women and their children.

/WOMEN/ - /LOW INCOME/ /RURAL MIGRATIONS/ /URBANIZATION/ /MARGINALITY/ /SOCIAL PARTICIPATION/ /SOCIAL CHANGE/ /HEALTH SERVICES/
$63800 12 months
-PONTIFICIA UNIVERSIDADE CATOLICA DO RIO DE JANEIRO, RIO DE JANEIRO, BR

82-0212 (SS)
AGRO-INDUSTRY: TECHNOLOGY POLICY (COSTA RICA)

Costa Rica's current economic problems have forced it to commence a period of readjustment by which it concentrates on those products which it can export with comparative advantage. There is pressing need to explore the policy framework by which the government's goals can be implemented. The objective of this project is to undertake a preliminary review of the agroindustrial sector in Costa Rica, concentrating on three of the major export commodities; coffee, meat and sugar, in order to prepare for a second phase examining technological infrastructure and policy. Researchers will undertake a literature review on agroindustries in Costa Rica and prepare an annotated bibliography; and analyze the role of technology in agroindustry development and its current contribution in Costa Rica.

/AGROINDUSTRY/ - /DATA COLLECTING/ /BIBLIOGRAPHY/ /TECHNOLOGY/
$40000 12 months
-CONSEJO NACIONAL DE INVESTIGACIONES CIENTIFICAS Y TECNOLOGICAS (CONICIT), SAN JOSE, CR

82-0213 (FAD)
PROCESS IMPROVEMENT WORKSHOP (VANCOUVER)

Over the past two years, workshops have been held in Singapore and Thailand designed to develop research methodologies to identify and solve problems in small food industries in the developing world. It is now proposed that IDRC and B.C. Research cosponsor a workshop to be held in Vancouver, Canada, 13-25 June 1983 for a larger group of industrial researchers from developing countries who are active in, or have expressed interest in, working with small food industries. It is the intention of this project to provide the funding for such a workshop, and more precisely, the project will support a small Group Training Workshop on Process Improvement for researchers in small food processing plants in developing countries.

/TRAINING PROGRAMMES/ - /FOOD PROCESSING/ /SMALL-SCALE INDUSTRY/
$48559 1 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), EDMONTON, ALBERTA, CA

82-0214 (AFNS)
MOLLUSC CULTURE (INDONESIA)

With 5.8 million square km of marine coastal waters, Indonesia is richly endowed with shellfish (molluscs) of economic importance. Cultured molluscs are a valuable source of animal protein for people of limited economic means. The general objective of this project is to increase the availability of shellfish from coastal waters in Indonesia. Researchers will develop economically feasible culture techniques for oysters and mussels in selected sites in the Riau and Java island areas; make initial cost-benefit analyses of the technology as it is developed; and train Indonesian scientists in the required techniques.

/FISH CULTURE/ - /MOLLUSCS/ /OYSTER CULTURE/
$202600 36 months
-CENTRAL RESEARCH INSTITUTE FOR FISHERIES, JAKARTA, ID

82-0215 (AFNS)
MOLLUSC CULTURE (SRI LANKA)

In Asia shellfish (molluscs) are not a luxury food but an important source of protein for many of the rural and urban poor. Although molluscs are found in many areas of Sri Lanka, there has been no history of their culture. The general objective of this project is to test the feasibility of various types of mollusc culture in Sri Lanka. Researchers will study the applicability of rack, raft and stake culture in selected areas for local mussels and oysters; examine the profitability and marketing of cultured molluscs; cooperate with rural fishermen in the development and implementation of the suggested culture systems; and train Sri Lankan research workers in the relevant research techniques.

/MOLLUSCS/ - /AQUACULTURE/ /COST-BENEFIT ANALYSIS/ /MARKET STUDIES/
$175800 36 months
-NATIONAL AQUATIC RESOURCES AGENCY (NARA), COLOMBO, LK

82-0216 (HS)
VASECTOMY/CARDIOVASCULAR DISEASE (KOREA)

Vasectomy is a highly effective means of male sterilization with few apparent side effets. Recently, however, research conducted primarily on vasectomized mammals and nonhuman primates has given rise to concern about a possible link between vasectomy and increased risk of arteriosclerosis (hardening of the arteries). Because vasectomy is a major component of the national family planning program of South Korea, where there is a high incidence of arteriosclerotic disease, the Korean government has become concerned about the results of the studies to date on vasectomized animals. This project will estimate the relative risk of arteriosclerotic disease in vasectomized men as compared to nonvasectomized men, controlling for known predisposing characteristics.

/VASECTOMY/ - /CARDIOVASCULAR SYSTEM/
$140320 24 months
-KOREA INSTITUTE FOR POPULATION AND HEALTH, SEOUL, KR

82-0217 (HS)
PRIMARY HEALTH CARE (MALAYSIA) - PHASE I

It is now generally recognized that primary health care is the key to achieving an acceptable level of health throughout the world in the foreseeable future. The principles of primary health care are well known, but much still needs to be learned about its application under local conditions. The government of Malaysia is committed to the development of a country-wide primary health care system. The intention of this project is to evaluate health needs and health services in the Lio Matu area of Sarawak, Malaysia, and then plan and implement a primary health care delivery program. A system for monitoring and evaluation will also be put into place, and it is envisioned that in a future phase, a detailed evaluation of the impact of the intervention will be made.

/PRIMARY HEALTH CARE/ - /HEALTH PLANNING/ /HEALTH SERVICES/ /health manpower/
$29570 18 months
-UNIVERSITY OF MALAYA, KUALA LUMPUR, MY

82-0218 (FAD)
Bivalve Training Project II (Dalhousie)

IDRC has a number of projects to develop the culture of bivalve molluscs and other invertebrate species in tropical countries. The successful establishment of these projects has required the training of local scientists in methods of study of the biological and physical aspects of bivalve culture. In order to provide a comprehensive study of culture systems, research methods, and ancilliary subjects, a training course was provided in 1982 at Dalhousie University, Halifax, Canada. This project will provide funds for a 1983 course. The objectives of the 1983 course are the same as those of 1982: to provide formal short course instructin and practical field experience in the farming of oysters and other bivalves in various culture systems to a range of trainees, from the technician to the biologist level.

/oyster culture/ /training courses/ /molluscs/
$102810   6 months
-Dalhousie University. Department of Biology, Halifax, Nova Scotia, CA

82-0219 (SS)
REGIONAL DISTRIBUTION OF FINANCIAL RESOURCES FOR EDUCATION (PERU)

Many developing nations allocate their limited educational resources in ways that tend to favour urban areas over the rural segments of the country. The government of Peru sees a need to correct existing urban-rural imbalances, particularly the often neglected rural schools which receive few financial resources and attract less experienced teachers. This project seeks to understand the nature and distribution of financial resources within the educational sector in Peru. Specifically, researchers will measure the extent of inequalities in the per capita distribution of educational resources; assess the differences that emerge between budgeted and real costs in education; establish the association between educational costs and internal efficiency of selected schools; and identify sources of educational financing in addition to the government.

/COST OF EDUCATION/ - /REGIONAL DISPARITY/ /ECONOMICS OF EDUCATION/
/EDUCATIONAL BUDGET/ /EDUCATIONAL FINANCING/ /PRIMARY EDUCATION/
$73400   18 months
-MINISTERIO DE LA EDUCACION, LIMA, PE

82-0220 (IS)
SAHELIAN INFORMATION NETWORK - INTERMEDIATE PHASE

The Sahel Information Network, RESADOC, is a decentralized cooperative information network which collects and disseminates scientific and technical information in the Sahel. It was set up in 1976 by the Permanent Intergovernmental Committee to Combat Drought in the Sahel (CILSS) and is administered by the Sahel Institute in Bamako, Mali. The objectives of this second project with RESADOC are to coordinate input from the members of the network, to develop a national and regional infrastructure for documentation, to install a microfilming operation, and to set up a data base using a microcomputer.

/INFORMATION NETWORK/ - /SAHEL/ /DROUGHT/ /TECHNICAL INFORMATION/
/INFORMATION SERVICES/
$81000   12 months
-INSTITUT DU SAHEL, BAMAKO, ML

82-0221 (HS)
OCCUPATIONAL HEALTH IN SMALL-SCALE INDUSTRIES (S.E. ASIA)

Rapid industrialization in manufacturing, chemical, and textile factories in urban areas and in agriculture in rural areas has led to a marked increase in a number of occupational diseases and accidents. In Asia, small-scale industries represent a large proportion of the industrial sector. Working conditions and services there are below standard, and workers run a greater risk of being injured on the job or developing health problems. This project will carry out a study in Hong Kong, South Korea, the Philippines, and Singapore to evaluate working conditions, and occupational health services in selected small-scale industries dealing with metal working, lead, and lead compounds.

/OCCUPATIONAL DISEASES/ - /METALWORKING INDUSTRY/ /SMALL-SCALE INDUSTRY/ /LEAD/ /WORKING CONDITIONS/ /LEGISLATION/ /HEALTH SERVICES/
$215190 18 months
-ASIAN ASSOCIATION OF OCCUPATIONAL HEALTH, OUTRAM HILL, SG

82-0222 (IS)
FAMILLE ET DEVELOPPEMENT - FINAL PHASE

This project signals the end of IDRC's involvement in the financing of the African journal on health and development, Famille et Développement. This popular magazine is read by francophones south of the Sahara and contains articles on ways to solve health, and other problems in daily life, and generally how to take an active role in development using local resources. IDRC's participation in the research phase of this project is completed and now the production and distribution of Famille et Développement is carried out by ASAFED (Association africaine d'éducation pour le développement) in Senegal. This project will allow ASAFED to publish four issues for a period of a year.

/PERIODICALS/ - /HEALTH/
$50000 12 months
-ASSOCIATION AFRICAINE D'EDUCATION POUR LE DEVELOPPEMENT (ASAFED), DAKAR, SN

82-0223 (HS)
BILHARZIA (EGYPT) - PHASE III

In Egypt the parasitic disease bilharzia, also known as schistosomiasis, constitutes a major health problem. Phase I of this project showed that the wild herb, damsissa, has a definite molluscicidal effect on the snails that are the vectors and intermediate hosts of the disease. More detailed and rigorously conducted studies in Phase II provided convincing evidence that dried plant material applied to irrigation channels at low concentrations could markedly reduce snail populations. Phase III will choose experimental and control areas from a human transmission study, and obtain baseline data on bilharzia prevalence, intensity and transmission potential in those areas; and cultivate damsissa in a nursery site and evaluate the feasibility of damsissa cultivation by local farmers in the Nile Delta region of Egypt.

/SCHISTOSOMIASIS/ - /DISEASE CONTROL/
$231050 24 months
-UNIVERSITY OF ALEXANDRIA, ALEXANDRIA, EG

82-0224 (SS)
TECHNICAL CHANGE IN THE DAIRY SECTOR (URUGUAY) - PHASE II

The increasing importance of the dairy sector within the economy of Uruguay is the result of recent economic policy, the stagnation of the beef sector, and a greater attention to productivity and efficiency. Developments in the dairy sector have important consequences for the country's agricultural policy and export growth. Phase I of this project reviewed the influence of technical change on the dairy industry in Uruguay, with special reference to the small farmer. Phase II will continue these efforts with the following specific objectives: to examine recent government policy and its influence on promoting technical change in the dairy sector; to conduct a statistical analysis of existing information and a series of case studies; and to estimate the costs and benefits of technical change to small farmers and dairy producers.

/DAIRY INDUSTRY/ - /TECHNOLOGICAL CHANGE/ /GOVERNMENT POLICY/ /MILK PROCESSING/ /COST-BENEFIT ANALYSIS/
$192000 24 months
-CENTRO DE INVESTIGACIONES ECONOMICAS (CINVE), MONTEVIDEO, UY

82-0225 (HS)
YELLOW FEVER (LATIN AMERICA) - PHASE I

Yellow fever is an acute infectious disease caused by a virus transmitted to humans by mosquitoes. In Latin America the ecological conditions are such that a devastating epidemic of yellow fever could break out at any time. In such a case, the present supply of vaccine would be completely inadequate. Hence, there is an acute need to correct the present deficiencies in vaccine production and research. This project will provide funds to modernize and improve the yellow fever vaccine production facilities in Colombia and Brazil.

/YELLOW FEVER/ - /VACCINES/ /TESTING/ /QUALITY CONTROL/
$312610 24 months
-INSTITUTO NACIONAL DE SALUD, BOGOTA, CO
-FUNDACAO OSWALDO CRUZ (FIOCRUZ), RIO DE JANEIRO, BR

82-0226 (HS)
PRIMARY HEALTH CARE TECHNOLOGY (GLOBAL) - PHASE I

The development of appropriate health technologies is a key element of the "know-how" required to deliver basic health services in developing countries. The Program for Applied Technology in Health (PATH) has achieved considerable success in developing new and improved technologies, and in introducing them into different countries. PATH has now identified several new specific technology leads deserving further development. This project will support a program of research and activities to take these leads from the current stge of development through field trails and into actual use. The technologies are: a polio vaccine marker; a baby scale; improved oral rehydration solutions; and a sterilization indicator for medical instruments.

/PRIMARY HEALTH CARE/ - /RESEARCH AND DEVELOPMENT/ /POLIOMYELITIS/ /VACCINES/ /TESTING/ /DIARRHEA/ /DISEASE CONTROL/ /EQUIPMENT/
$340450 24 months
-PROGRAM FOR APPROPRIATE TECHNOLOGY IN HEALTH (PATH), SEATTLE, WASHINGTON, US

82-0227 (IS)
SPECIALIZED INFORMATION CENTRES (CIAT)

In the years from 1973 to 1979 the International Centre for Agricultural Tropical Agriculture (CIAT) established a specialized information centre on cassava. Subsequently CIAT aso launched information centres on field beans and tropical pastures. However, budgetary restraints have forced CIAT to staff these centres with relatively junior personnel, and it lacks the resources required to expand and meet ever-increasing demands for the information products of the centres. This project will provide funds to upgrade several staff positions, and supplement existing operations with new ones that are perceived as necessary at the three information centres.

/INFORMATION SERVICES/ - /CASSAVA/ /BEANS/ /FORAGE CROPS/
$784345 48 months
-CENTRO INTERNACIONAL DE AGRICULTURA TROPICAL (CIAT), CALI, CO

82-0228 (SS)
AGRICULTURE AND POPULATION INTERRELATIONS (KENYA)

One consequence of rapid population growth in Kenya is increased pressure on what are already restricted supplies of agricultural land throughout the country. The objective of this project is to analyze the interrelationships between agricultural development and population variables. Specifically, the project will undertake an overall assessment of population trends in Kenya, particularly as these trends relate to agricultural change, income levels and the availability of social services.

/POPULATION DYNAMICS/ - /AGRICULTURAL DEVELOPMENT/ /POPULATION INCREASE/
/FERTILITY/ /AGRICULTURAL AREAS/ /COMPARISON/
$240000 24 months
-UNIVERSITY OF NAIROBI, NAIROBI, KE

82-0229 (SS)
TRAINING PROGRAM FOR INTERMEDIATE LEVEL SCHOLARS (THAILAND) - PHASE II

There is limited research capacity in the area of social sciences generally in Southeast Asia, and in population studies in particular. This project will enable the Thai University Research Association (TURA) to undertake the second phase of a research and training activity designed to improve the competence of intermediate level scholars in Thailand to carry out policy relevant studies on population and development issues. Support will be in the form of an award program incorporated within the Microlevel Studies Program (MLSP) administered by TURA.

/GRANTS/ - /TECHNICAL ASSISTANCE/ /POPULATION/ /SOCIAL RESEARCH/ /RESEARCH FELLOWSHIPS/
$260000 28 months
-THAI UNIVERSITY RESEARCH ASSOCIATION (TURA), BANGKOK, TH

82-0230 (SS)
COARSE FOOD GRAINS DEMAND (WEST AFRICA)

This project provides funding to the International Food Policy Research Institute (IFPRI) for a research program on coarse food grains demand in the semi-arid tropics of West Africa. IFPRI and researchers from collaborating isntitutions propose to address policy issues concerning maize, millet and sorghum in the semi-arid tropics of West Africa. Researchers will examine, for example, what effect relative price changes have on production and consumption, given the nature of supply and demands who consumes domestically produced coarse grains (and conversely imported grains) and what are the income distribution implications of price changes; what is the impact of cereal food aid; and what are the export prospects for semi-arid tropics of West Africa coarse grains.

/CEREALS/ - /MILLET/ /MAIZE/ /SORGHUM/ /SUPPLY AND DEMAND/ /PRICES/ /PRICE POLICY/ /ECONOMIC ANALYSIS/ /FOOD AID/
$325000 36 months
-INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE (IFPRI), WASHINGTON, D.C., US

82-0231 (SS)
INSTITUTIONAL GRANT - INSTITUTE OF DEVELOPMENT STUDIES (GUYANA)

The Institute of Development Studies (IDS) was established in 1973 to promote an understanding of the economic and social development of Guyana and the Caribbean. A constituent part of the University of Guyana, it has tried to maintain a balance between teaching, research and policy studies. Guyana's current economic and fiscal crisis has forced the government to cut funds to the University and subsequently IDS. The purpose of this project is to provide funds to IDS which will permit IDS to continue their development research. Specifically the project will provide funds for equipment, books and journals from abroad, the publication of a journal, and the establishment of a research fund which will allow IDS members and associates to visit other countries and attend training courses.

/RESEARCH CENTRES/ - /DEVELOPMENT RESEARCH/
$63000 18 months
-UNIVERSITY OF GUYANA, GEORGETOWN, GY

82-0232 (SS)
INFANT MORTALITY (MEXICO)

Recent research suggests that socioeconomic conditions and cultural practices with respect to nutrition, sanitation, and hygiene are key factors in infant death. Research on infant mortality in Mexico is limited by inadequate data. Socioeconomic, environmental cultural and program delivery variables are either inadequately specified or non-existent in the country. The objectives of this project are to develop and test new measures of socioeconomic conditions, measures of nutritional status, health and sanitation practices, and access to health programs that can be applied in future diagnostic and evaluative surveys.

/INFANT MORTALITY/ - /SOCIAL CONDITIONS/ /ECONOMIC CONDITIONS/ /CULTURAL FACTORS/ /NUTRITION/ /SANITATION/ /HYGIENE/
$79300 18 months
-INSTITUTO DE INVESTIGACIONES SOCIALES, UNIVERSIDAD NACIONAL AUTONOMA DE MÉXICO, COYOACAN, MX

82-0233 (SS)
URBAN SERVICES MANAGEMENT (INDIA)

Most Third World cities have found it extremely difficult to maintain existing levels of basic services. The large number of Indian cities which have found themselves in this situation have been trying to find means to improve service delivery by maximizing existing resources through superior management procedures and minimal capital investment. This project will attempt to find ways to optimize the use of existing resources - manpower, material and money - to upgrade urban services in Indian cities. Researchers will evaluate the efficiency of selected urban services; assess the effectiveness of delivery of these urban services; and describe and analyze the management capability of local urban bodies, and their financial structure.

/PUBLIC SERVICES/ - /URBAN AREAS/ /PUBLIC ADMINISTRATION/ /EVALUATION/
$96500 18 months
-INDIAN COUNCIL FOR RESEARCH ON INTERNATIONAL ECONOMIC RELATIONS (ICRIER), NEW DELHI, IN

82-0234 (IS)
DOCPALITO DOMINICANO

The Latin American Population Documentation System (DOCPAL) is a regional information system operated by the Latin American Demographic Centre that was established to improve the flow of population information in Latin America and the Caribbean. This project will enable the Dominican Association for Family Welfare, Inc. (PROFAMILIA) to become the DOCPAL participating centre for the Dominican Republic by setting up a special population information unit. The objectives of the DOCPAL centre are to collect, organize, and centralize all pertinent information; participate in the DOCPAL system by contributing population information from the Dominican Republic; and to provide relevant information to requestors in the form of copies of documents, microfiches, or bibliographies.

/INFORMATION SYSTEMS/ - /POPULATION/ /INFORMATION SERVICES/ /DEMOGRAPHY/
$55685 18 months
-ASOCIACION DOMINICANA PRO-BIENSTAR DE LA FAMILIA, INC. (PROFAMILIA), SANTODOMINGO, DO

82-0235 (SS)
ARTISANAL FISHERIES (NORTHEAST SOMALIA)

Somalia has an extended coastline with underexploited fisheries resources. Government efforts to develop the fisheries sector have been severely hampered by the almost complete lack of information about coastal communities engaged in fishing. Little is known about the role of fishing for household income and employment or about the potential roles of fish in the diet of coastal peoples. There is also little accurate information about the potential fish catch using traditional techniques or those that may be adopted by artisanal fishermen as opposed to modern trawler techniques. This project will collect and analyze baseline data on coastal fishing communities of Northeast Somalia in order to provide a basis for possible artisanal fisheries development in the region.

/COASTAL FISHING/ - /FISHERY DEVELOPMENT/ /FISHERY RESOURCES/ /FISHING EQUIPMENT/ /FISHING VESSELS/
$73800 24 months
-SOMALI ACADEMY OF SCIENCES AND ARTS (SOMAC), MOGADISHU, SO

82-0236 (SS)
INFORMAL SECTOR TECHNOLOGICAL CAPABILITY (SIERRA LEONE)

Greater efforts are being made in developing countries to encourage the development of enterprises that use local raw materials and skills. In Sierra Leone, small-scale metalworking and auto-repair activities, due to restrictions on imports, have shown a capacity to expand and innovate to provide goods and services of an acceptable standard. This project will investigate the potential of these activities in Sierra Leone to provide the basis of a self-sustaining local technological capability. Researchers will examine how informal metalworking and auto-repair enterprises acquire, transfer and diffuse technical skills.

/INNOVATIONS/ - /INFORMAL SECTOR/ /METALWORKING INDUSTRY/ /AUTOMOBILE SERVICE/ /MAINTENANCE AND REPAIR/ /TECHNICAL EDUCATION/ /DIFFUSION OF INNOVATIONS/
$27300 12 months
-UNIVERSITY OF SIERRA LEONE, FREETOWN, SL

82-0237 (SS)
REVIEW OF KOREAN NATIONAL STANDARDS SYSTEMS (SOUTH KOREA)

Standards and specifications play a critical role in the development of industry and trade. National standards systems set units of measurement and standards for testing, provide information on properties of materials, and develop control systems for and manufacturing and processing. They also develop, adapt and enforce quality standards for many manufactured and traded goods. Korea established its own standards system over two decades ago. The purpose of this study is to examine the organization and activities of the country's national standards system and, keeping in view the changing technological needs of Korea, to suggest policies to improve the working of the Korean Standards Organization. Researchers will evaluate the national standards system, comparing it to the structure and role of such systems in selected countries.

/STANDARDS/ - /STANDARDIZATION/ /SPECIFICATIONS/ /COMPARATIVE ANALYSIS/
$85000 18 months
-INCHEON UNIVERSITY, INCHEON, KR

82-0238 (SS)
WOMEN'S ATTITUDES TO EDUCATION AND CAREERS (KENYA)

As the actual, and particularly the potential, role of Third World women in the development process becomes recognized, questions about their educational and occupational development are coming to the fore. This project will develop a more comprehensive understanding of factors influencing the educational and occupational development of women through an investigation of the perceptions and attitudes of women themselves. Women from three broadly defined classes of Kenyan society will be selected to participate in the study. Respondents will be asked to consider their education work experiences, and expectations within the broader context of personal attributes and motivation, family background and socioeconomic status.

/WOMEN/ - /ATTITUDES/ /EDUCATION OF WOMEN/ /EMPLOYMENT/ /EMPLOYMENT OPPORTUNITIES/ /MOTIVATIONS/ /BEHAVIOUR/ /SOCIAL CLASSES/
$15750 24 months
-MAZINGIRA INSTITUTE, NAIROBI, KE

82-0239 (SS)
SELF-HELP HOUSING AT LUBUMBASHI (ZAIRE)

Urban centres in Zaire are experiencing a growth in squatter settlements as are most other cities in Africa. Out of concern for an improved housing environment for the people of these settlements, many of them migrants, the Office for Urban Housing Studies (BEAU) will study this urban phenomenon of unplanned housing. Details of the construction process will be examined, particularly the costs, materials, techniques, financing and time factor, as well as the families and household budgets. The research will take place in Lubumbashi, Zaire's third largest city.

/SQUATTERS/ - /HOUSING/ /SELF-HELP/ /CONSTRUCTION TECHNIQUES/
$65700 12 months
-DEPARTEMENT DES TRAVAUX PUBLICS ET D'AMENAGEMENT DU TERRITOIRE, KINSHASA, ZR

82-0240 (SS)
STUDENT ACHIEVEMENT IN MATHEMATICS (DOMINICAN REPUBLIC) - PHASE II

Mathematics is an extremely important area of learning in developing countries. It is used as a common criterion to decide on student promotion and affects the eventual choice of technical careers. Phase I of this project sought to assess the teaching and learning of mathematics at the high school level in the Dominican Republic. Researchers have produced a detailed analysis of the curriculum objectives and content of the mathematics program at the high school level, and have developed and applied as a pre-test an instrument measuring mathematics skills at the eighth grade level. In Phase II researchers will measure student achievement in mathematics at the high school level, and student attitudes toward courses and careers related to mathematics; and determine the relationship between student achievement and attitudes in mathematics, and socioeconomic and school factors.

/MATHEMATICS/ - /SECONDARY EDUCATION/ /STUDENTS/ /ATTITUDES/ /TESTING/
$67700 12 months
-UNIVERSIDAD CATOLICA MADRE Y MAESTRA, SANTIAGO DE LOS CABALLEROS, DO

82-0241 (SS)
ACTION-RESEARCH PROGRAM IN RURAL COOPERATIVES (UPPER VOLTA)

In certain African countries, particularly in Francophone Africa, few social scientists have been trained to do research. This project will give 12 social scientists in Upper Volta the opportunity to research different aspects of the cooperative movement. They will receive professional training in Upper Volta by the staff of the International Cooperative University, based in Paris. Each participant will be taught the methodology of project research and will apply it throughout his or her own study. Among the subjects of investigation will be functional literacy, community development and participation, the training of young farmers and artisans, and the impact of cooperatives on migration.

/SOCIAL RESEARCH/ - /COOPERATIVES/ /RURAL AREAS/ /VOCATIONAL TRAINING/
$79000 12 months
-UNIVERSITE COOPERATIVE INTERNATIONALE, PARIS, FR

82-0242 (FAD)
GROUP TRAINING COURSE ON URBANIZATION IN DEVELOPING COUNTRIES - PHASE I

Research into urban problems has been of major interest to the governments of developing countries. The Working Group on Urbanization in Developing Countries was established within the International Geographical Union to study urbanization issues. This project will support a Working Group course designed to train participants in the use of the latest techniques and methods of research and analysis, including theories and models applicable to the experience of urbanization in developing countries. The course will be conducted at the University Sains Malaysia (USM) in Penang and will be aimed at students, researchers, planners, and policymakers from the Asian and Pacific region.

/URBANIZATION/ - /URBAN DEVELOPMENT/ /policy making/ /RESEARCH METHODS/ /TRAINING COURSES/
$48345 1 months
-UNIVERSITI SAINS MALAYSIA, PENANG, MY

82-0243 (SS)
A STUDY OF THE NEEDS FOR SCIENTIFIC AND TECHNICAL MANPOWER (THAILAND)

With the expansion of universities, technical and vocational schools and skill training centres in the country the supply of scientific, technical, and skilled manpower has been growing fairly rapidly in Thailand. However, there are no coherent national plans for the development of skilled manpower in different fields and at different levels. In an attempt to correct this situation, the Thai government has begun a major policy study to evaluate the nature of supply and demand for skilled manpower in Thailand. This project will support the efforts of the government study to identify qualitative and quantitative gaps between supply and demand, and devise improved manpower development policies.

/MANPOWER NEEDS/ - /SKILLED WORKERS/ /OCCUPATIONAL QUALIFICATION/ /MANPOWER PLANNING/ /LABOUR SUPPLY/
$84000 36 months
-MINISTRY OF SCIENCE, TECHNOLOGY AND ENERGY, BANGKOK, TH

82-0244 (FAD)
GROUP TRAINING: QUALITATIVE RESEARCH IN EDUCATION

This project will support a workshop to train staff of several Latin American-based IDRC projects in methods of analyzing and interpreting qualitative ethnographic data-information which tend to be rich in detail, descriptive, and difficult to quantify and analyze, as in the more traditional kinds of survey research. The workshop will develop the potential of Latin American researchers in theoretical, conceptual, methodological and policy-related aspects of qualitative research as it relates to schools.

/DATA ANALYSIS/ - /SOCIAL RESEARCH/ /METHODOLOGY/ /SCHOOLS/ /TRAINING COURSES/
$43335 1 months
-CENTRO INTERNACIONAL DE INVESTIGACIONES PARA EL DESARROLLO (CIID), BOGOTA, CO

82-0245 (SS)
POVERTY ERADICATION PROGRAMS (KUALA LUMPUR)

The Government of Malaysia has formulated a set of bold development policies: generally referred to as the New Economic Policy. One of the underlying goals of this broad policy is eradication of poverty, irrespective of ethnicity and geographic location. This project will evaluate the programs and policies that have been designed to eradicate poverty in squatter settlements in the Kuala Lumpur metropolitan area. The project will involve a thorough analysis of data on poverty-eradication program structure, implementation and performance collected from a survey of both government officials/local leaders responsible for implementing poverty-eradication programs and a representative sample of urban squatters themselves.

/SQUATTERS/ - /LIVING CONDITIONS/ /POVERTY/ /DEVELOPMENT POLICY/ /BASIC NEEDS/
$71800 18 months
-UNIVERSITY OF MALAYA, KUALA LUMPUR, MY

82-0246 (SS)
FERTILITY IN URBAN SLUMS (PARAGUAY)

Studies of human fertility in Paraguay are rather recent, and have largely been carried out as part of national surveys designed to assess general levels and trends. It is the intention of this project to generate new knowledge on patterns of fertility in Paraguay as a whole, and on fertility and family planning in relationship to health, family planning and social service delivery among the poor sectors of Asuncion, the capital city. Researchers will assess the relationship between poverty and fertility in Paraguay as a whole; assess in greater detail the socioeconomic and motivational factors associated with higher fertility among poor families in Asuncion; determine the access to and demand for health and social services in the capital; and determine family size aspirations among the urban poor in Asuncion.

/FERTILITY/ - /LIVING CONDITIONS/ /POVERTY/ /FAMILY SIZE/ /MOTIVATIONS/ /MATERNAL AND CHILD HEALTH/ /HEALTH SERVICES/
$96000 18 months
-INSTITUTO DE INVESTIGACIONES EN CIENCIAS DE LA SALUD (IICS), ASUNCION, PY

82-0247 (SS)
FOOD SUPPLY IN YAOUNDE (CAMEROON)

Rapid population growth in capital cities and other urban areas in developing countries is usually accompanied by serious problems of food supply and distribution to these areas. Periods of food shortage can be followed by an oversupply of foodstuffs and consequently food prices fluctuate greatly. Efforts in the past to improve the food supply system have failed partly because it is not clearly understood how the food distribution system works. This project will concentrate on the food supply system in the capital of Cameroon, Yaoundé. It will investigate the origin of diverse food products, distribution channels, wholesale operations, transport, prices, profit margin, and food wastage.

/FOOD SUPPLY/ - /DISTRIBUTION/
$23300 24 months
-UNIVERSITE DE YAOUNDE, YAOUNDE, CM

82-0248 (IS)
Information Analysis on Avian Haematozoa - Phase II

Research on the blood parasites of birds - avian haematozoa - may prove to be important to the understanding of insect-borne diseases in humans. The International Reference Centre for Avian Haematozoa is the largest and most significant research nucleus on avian blood parasites in the world. Phase I of this project enabled the Centre to continue to provide a range of information services to researchers in developing countries and prepare a host-parasite index on specific bird families and their parasites. Phase II will enable the Centre to computerize its data banks and information services; to develop a computerized model for other specialized information analysis centres; and to continue its information-delivery functions, particularly for developing countries.

/parasites/ /birds/ /tropical diseases/ /disease transmission/ /information services/ /bibliography/
$85500 36 months
-Memorial University of Newfoundland. International Reference Centre for Avian Haematozoa, St. John's, CA

82-0249 (IS)
ICARDA INFORMATION SERVICES - ARABIC DIMENSION

Established in 1977, ICARDA (International Centre for Agricultural Research in the Dry Areas) is a major link in a worldwide network of international agricultural research institutes that seek to improve and increase food production. The information section at ICARDA, under the general direction of the faba bean and lentil breeders, has established two very successful information activities with newsletters, namely, FABIS and LENS. In 1982, the cereals program at ICARDA also established a newsletter (RACHIS) to help improve the exchange of information amongst scientists and extension workers working in the region. The main objective of this project is to enable ICARDA, in operating its information services, to progressively build a capability to work in Arabic, and thereby strengthen the overall information services at ICARDA.

/INFORMATION SERVICES/ - /ARABIC/
$93000 36 months
-INTERNATIONAL CENTER FOR AGRICULTURAL RESEARCH IN THE DRY AREAS (ICARDA), ALEPPO, SY

82-0250 (IS)
AGRICULTURAL DOCUMENT DELIVERY (ARGENTINA)

Argentina is participating in AGRINTER, the Latin American and Caribbean regional agriculture information network, and AGRIS, the global agricultural information network. Argentina's National Agricultural Information System (SNICA) is well-known not only within the country, but also in the region as a whole for its excellent collection of books and journals. This project will enable the Library of the Faculty of Agronomy of the University of Buenos Aires, which is the central coordinating node for SNICA, to implement a microfiche distribution system of nonconventional documents to users within the country through SNICA, as well as regionally to users of the AGRINTER and AGRIS systems.

/AGRIS/ - /INFORMATION SERVICES/ /MICROFICHES/
$48070 12 months
-UNIVERSIDAD DE BUENOS AIRES, BUENOS AIRES, AR

82-0251 (AFNS)
SHELTERBELTS (NIGERIA) - PHASE II

The need to establish shelterbelts against desiccating winds and sandstorms has long been recognized in the semi-arid areas bordering the Sahara. Research is required to improve the benefits of shelterbelts. In phase I of this project, researchers carried out trials to select the most useful tree species for shelterbelts in Nigeria; investigated various planting methods; and studied the economic and agronomic effects of shelterbelts on small farms in Nigeria. Phase II will continue work begun in phase I on species performance and planting techniques, and the effects of shelterbelts on crop yields, water conservation and the local environment. A specific objective of phase II will be to investigate the benefits and effects of protective tree plantations in the form of dispersed planting for comparison with those obtained from shelterbelts.

/SHELTERBELT/ - /ARID ZONE/ /TREES/ /AGRICULTURAL PRODUCTION/ /CROP YIELD/ /PLANTING/ /COMPARATIVE ANALYSIS/ /WATER CONSERVATION/
$231700 36 months
-FEDERAL MINISTRY OF SCIENCE AND TECHNOLOGY OF NIGERIA, IBADAN, NG

82-0252 (SS)
INVESTMENT CODES (SENEGAL)

Developing countries try to attract direct foreign investment in order to acquire new technologies, build up national savings and foreign currency reserves and create markets abroad for local products. On a worldwide scale, foreign investment in sub-Saharan Africa is negligible, but the flow of capital does influence the rate of growth in particular countries. The investment incentives offered to foreign companies in the form of industrial sites and some preferential treatment do exact a cost on the economy. Little research has been carried out by local universities on the effect of foreign investment on this region. This project seeks to study the statutes in Senegal which stimulate corporate investment and will conduct a cost-benefit analysis of these incentives.

/INVESTMENT POLICY/ - /INVESTMENT PROMOTION/
$22500 18 months
-UNIVERSITE DE DAKAR, DAKAR, SN

82-0254 (IS)
AGRICULTURAL PROJECTS SERVICES CENTRE (APROSC) - LIBRARY ENLARGEMENT

Information about agriculture and rural development in Nepal is seen as an important function in the local development process. The Agricultural Projects Services Centre (APROSC), which occupies two small buildings on the outskirts of Kathmandu, has given high priority to modernizing library and information services. The Centre's premises are becoming increasingly congested and, in particular, the library and related services have inadequate space. The purpose of this project is to construct an extension to allow the library to meet its future growth requirements.

/LIBRARIES/ - /AGRICULTURE/ /RURAL DEVELOPMENT/ /INFORMATION SERVICES/
$52950 12 months
-AGRICULTURAL PROJECTS SERVICES CENTRE (APROSC), KATHMANDU, NP

82-0255 (SS)

DEVELOPING AN INTEGRATED NEEDS ASSESSMENT STRATEGY (THAILAND)

The Government of Thailand, in an effort to make its development programs more relevant to the most depressed rural areas, recently introduced a policy promoting district-level assessment of needs by local councils. Implementation of this policy, however, is being impaired by a lack of skill at the local level in applying comprehensive needs-assessment strategies. This project will provide a detailed case study of one such strategy: an integrated method of assessing needs that involves non-formal education training. The strategy to be used in this project involves the women of five villages under study in the analysis of community issues and the development of alternative solutions, specifically ones that could be achieved through non-formal education training.

/DEVELOPMENT PLANNING/ - /RURAL AREAS/ /WOMEN/ /NON-FORMAL EDUCATION/
/ADMINISTRATIVE ASPECTS/ /TRAINING/ /DEVELOPMENT STRATEGY/
$47300 22 months
-SVITA FOUNDATION, BANGKOK, TH

82-0256 (AFNS)

FOOD LEGUMES (IITA) - PHASE IV

The Upper Volta National Food Legume Improvement Program began in 1977 with IDRC support. In the first phase, from 1977-1979, researchers produced a series of improved varieties well adapted to the region and acceptable to the farmers. In the second phase, from 1979-1981, researchers continued work begun in phase I and started an extensive plant-crossing program. In the third phase, from 1981-1983, an Upper Voltan plant breeder was trained. Phase IV will maintain and accelerate this project by developing cowpea varieties that give high and stable yields, demonstrate seed quality acceptable to farmers and consumers, and are suitable for simple and mixed cropping patterns in the Sudanese and Sahelian areas of Upper Volta and other African countries. Specific objectives are to select cultivars for their resistance to heat, drought, insect pests and diseases; and intensify on-farm testing.

/COWPEAS/ - /PLANT BREEDING/ /GENETIC IMPROVEMENT/ /ARID ZONE/
/CULTIVATION SYSTEMS/
$591300 24 months
-INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE (IITA), IBADAN, NG

82-0257 (SS)

AGRARIAN STRUCTURE (ECUADOR)

Some important but not very well understood structural changes have occurred in the agricultural production systems in the coastal provinces of Ecuador. The number of small-scale agricultural production units appears to have increased. There has been a corresponding development of a commercial calss composed of marketing agents, transport companies, bankers, industrialists, and exporters. This project will describe the changes in the structure of the agrarian economy of Manabi province, Ecuador, since 1960. Specifically, the project will analyze the key factors responsible for changes in the land, labour, and capital relationships; and analyze the relationship between peasant economies and the market, examining the role of the commercial class.

/AGRARIAN STRUCTURE/ - /AGRICULTURAL MARKET/ /SUBSISTENCE FARMING/
/PRODUCERS/
$64600 15 months
-PONTIFICIA UNIVERSIDAD CATOLICA DEL ECUADOR (PUCE), QUITO, EC

82-0258 (SS)
ARTISANAL FISHERIES (COLOMBIA)

Very little information exists on the small-scale (artisanal) fisheries sector. No systematic study has been undertaken of its social and economic organization or of the effects of large-scale fishing and agro-industry. This project will undertake a preliminary study of these factors in selected Atlantic and Pacific coastal communities in Colombia. Researchers will identify adaptive strategies for fisheries resource management and exploitation under different ecological conditions, namely open seas, bays, and mangrove swamps; assess fish marketing mechanisms and structures; and make a preliminary assessment of the impact of industrial fishing and large-scale agro-industry on the small-scale fisheries sector.

/COASTAL FISHING/ - /FISHERY DEVELOPMENT/ /FISHERY RESOURCES/ /FISHING EQUIPMENT/ /MARKETING/
$28450 12 months
-FUNDACION PARA LA EDUCACION SUPERIOR (FES), CALI, CO

82-0259 (SS)
MASS COMMUNICATION AND THE DEVELOPMENT OF CULTURES (ARGENTINA)

A new perspective emerging in the field of communication suggests that analysis of communication should begin with an examination of individuals and groups who are attempting to create order in a situation and are seeking information. This project will undertake an exploratory study of mass communication and the development of culture in an urban working class environment, in Buenos Aires, Argentina, from 1920 to 1945. The project will focus on three areas which influence the forming and receiving of messages: cultural mediators, or individuals working in leadership roles; the content of the messages produced; and the socioeconomic and political contexts in which the messages occur. This project will be one of the first studies in Latin America to analyze the role of culture in mass communication.

/MASS COMMUNICATION/ - /CULTURAL FACTORS/ /WORKING CLASS/ /HISTORICAL ANALYSIS/
$33800 12 months
-PROGRAMA DE ESTUDIOS DE HISTORIA ECONOMICA Y SOCIAL AMERICANA (PEHESA), BUENOS AIRES, AR

82-0260 (IS)
NEPAL AGRICULTURAL DOCUMENTATIION CENTRE (NADC) - PHASE II

Agricultural information in Nepal has not been well organized nor well disseminated in the past. Phase I of this project sought to correct this situation by developing a national agricultural library and documentation facility, the Nepal Agricultural Documentation Centre (NADC) and introducing basic information services to agricultural workers within Nepal. Phase II wil allow NADC to consolidate and strengthen the programs and services initiated in phase I. Specifically, it will enable NADC to plan and assist with the establishment of a "model library"; and organize a series of users seminars to draw the attention of agricultural workers to the research materials and aids that are available to them.

/INFORMATION SERVICES/ - /AGRICULTURE/
$86300 24 months
-AGRICULTURAL PROJECTS SERVICES CENTRE (APROSC), KATHMANDU, NP

82-0261 (SS)
TRADE AND DEVELOPMENT (PHILIPPINES)

Non-tariff barriers (NTBs), which include quotas, customs procedures, sanitary regulations, and government procurement policies, play an important role in the trade policies of most developing countries. Indeed, their impact on prices, output and employment may be greater than that exerted by tariffs. This project focuses on the economic impact of NTBs on industry in the Philippines. Little research has been conducted on NTBs in that country, partly because of the problems encountered in identifying and cataloguing NTBs. In this project, researchers will compile an exhaustive and accurate catalogue of NTBs currently used in the Philippines; estimate the effect of these on prices, output and employment of select industries; and recommend changes in current trade practices in order to improve industry performance.

/PROTECTIONIST MEASURES/ - /INDUSTRIAL DEVELOPMENT/ /INDUSTRIAL POLICY/
$80000 24 months
-UPECOUN FOUNDATION INC., UNIVERSITY OF THE PHILIPPINES, QUEZONCITY, PH

82-0263 (IS)
NATIONAL AGRINTER CENTRE (GUATEMALA)

In Guatemala there is a limited group of agricultural centres dedicated to collecting, procesing, and disseminating technological information. This project will enable Guatemala to increase the cature and control of national agricultural literature, strengthen the national agricultural information network, and improve the services to librarians and documentalists of AGRINTER (Interamerican Information System for the Agricultural Sciences) and AGRIS (International Information System for Agricultural Sciences and Technology).

/AGRIS/ - /INFORMATION SERVICES/
$95000 24 months
-CENTRO DE DOCUMENTACION E INFORMACION AGRICOLA DE LA UNIVERSIDAD DE SAN CARLOS, GUATEMALA, GT

82-0264 (AFNS)
DAIRY BEEF PRODUCTION SYSTEMS (DOMINICAN REPUBLIC)

While technological advances in agriculture have made higher yields and better quality products possible, the benefits obtained from this improved technology have been marginal for small producers. This project will develop improved dairy beef production systems, based on the grazing of mixed grass-legume pastures, that are appropriate for small- and medium-scale farms and that allow profitable and sustainable milk production in the subtropical humid forest ecosystems of the Dominican Republic. Researchers will design and test a production system which could solve the problems and restrictions of the dairy beef enterprise at the farm level. Promising pasture legumes and grasses will be introduced, food conservation schemes developed, agricultural products and by-products utilized, and animal health and management practices assessed.

/ANIMAL PRODUCTION/ - /FORAGE CROPS/ /FEED/ /AGRICULTURAL ECONOMICS/ /ANIMAL HUSBANDRY/ /ANIMAL NUTRITION/ /PLANT BREEDING/ /GENETIC IMPROVEMENT/
$265950 36 months
-SECRETARIA DE ESTADO DE AGRICULTURA, SANTO DOMINGO, DO

82-0265 (IS)
HANDBOOK ON MARINE SCIENTIFIC AND TECHNOLOGICAL INFORMATION RESOURCES (MASTIR)

The transfer of knowledge and technology in the field of marine science and related subjects has been encouraged by the recently signed Convention on the Law of the Sea and is expected to receive high priority in many developing countries. Increased effort to encourage international cooperation and assistance in such transfers to developing countries is needed. The International Oceanographic Commission (IOC) seeks to establish and improve networks of marine science information exchange and documentation for developoing countries. This project will enable the IOC to publish and distribute a Handbook on Marine Scientific and Technological Information Resources. The handbook will serve as a source of information on bibliographies, directories, encyclopedias and other marine science publications.

/DIRECTORY/ - /OCEANOGRAPHY/ /MARINE RESOURCES/ /MARITIME LAW/
$47900 20 months
-COMMISSION OCEANOGRAPHIQUE INTERGOUVERNEMENTALE (COI), PARIS, FR

82-1001 (AFNS CP)
Faba Bean Pathology (Manitoba) - Phase II

Faba beans, together with lentils and chickpeas are important sources of protein rich food to large numbers of people. Faba beans are susceptible to numerous diseases, which vary in incidence and severity from one region to another. Since these diseases frequently cause serious crop losses, a major effort is being made by the International Centre for Agricultural Research in the Dry Areas (ICARDA) and the University of Manitoba to analyze these disease losses and to breed faba beans for resistance to them. Phase I of this project is supporting work on ascochyta blight resistance. Phase II will be a continuation and expansion of the current ascochyta blight project, and will support work on rust and bean yellow mosaic virus (BYMV) resistance and the development of lines and cultivars with multiple resistance.

/faba beans/ /plant diseases/ /plant breeding/ /genetic improvement/
$193286 24 months
-University of Manitoba. Department of Plant Science, Winnipeg, CA

82-1002 (AFNS CP)
Rhizobial Carrier Systems (Manitoba)

Food legume crops are characterized by high protein content, and an ability to survive and produce well under soil conditions with low nitrogen levels. These capabilities are determined by the efficiency of the nitrogen fixing bacteria associated with the roots of these crops. Frequently Rhizobium spp. is introduced into the soil artificially to ensure adequate nodulation and nitrogen fixation through the plant/microbe symbiosis. The objective of this project is to develop, for winter-sown chickpeas, systems of introducing rhizobium bacteria suitable for production in the Middle East. The project will determine the suitability of crop residues available in the Middle East as carrier substrates; and design a system for culturing and harvesting appropriate rhizobia.

/chickpeas/ /bacteria/ /nitrogen/ /cultivation practices/
$170300 36 months
-University of Manitoba. Department of Plant Science, Winnipeg, CA

82-1003 (CP)
GEOPHYSICAL RESEARCH ON PRECAMBRIAN AREA IN NIGERIA

During the last decade, airborne geophysical surveys of the land mass of Nigeria have been carried out. One of the methods used was the aeromagnetic survey. An in-depth study of the geophysical data would greatly benefit Nigeria as it would lead to a greater understanding of the crustal structure, and economic spin-offs such as mineral and energy resources development. In this project, the Ahmadou Bello University and the University of Manitoba will carry out the interpretation of aeromagnetic survey coverage of Nigeria; develop the aeromagnetic interpretational methodology and techniques in the form of computer software; and strengthen the research capabilities of the Ahmadou Bello University.

/MAPPING/ - /GEOPHYSICS/ /MAPS/
$140520 18 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA
-UNIVERSITY OF MANITOBA, WINNIPEG, CA

82-1004 (SS)
Fertility and Family Planning (Tunisia)

Tunisia is one Arab country that has successfully adopted family planning measures in order to reduce fertility and slow population growth. The National Office of Family Planning and Population will undertake a demographic study in cooperation with the Population Studies Centre of the Department of Sociology at the University of Western Ontario. The study will review fertility patterns over the last 20 years in Tunisia, paying attention to urban-rural differences, the role of women, and acceptance of contraceptives. Current family planning practices and socioeconomic factors relating to fertility will be established by in-depth interviews. The statistical data will be analyzed in Canada.

/family planning/ /fertility/
$71900 18 months
-Office National du Planning Familial et de la Population (ONPFP), Tunis, TN
-University of Western Ontario. Department of Sociology, London, Ontario, CA

82-1005 (AFNS CP)
Fish Gamete Preservation (Victoria) - Phase I

It is clear that fish-farming in the developing world cannot rely on seed from natural sources, and that the production of fry under controlled conditions must increase. Two major obstacles to the breeding of fish are the reluctance of many cultured species to release their gametes (spermatozoa and ova) in captivity, and the production of eggs and spermatozoa at different times or at different locations. These obstacles to breeding would be overcome if one could collect mature gametes opportunistically, and conserve them for later use. This project will develop simple, practical methods for short and medium term preservation of gametes of warm water fish species of interest to tropical aquaculturists. Researchers will determine optimum storage of spermatozoa and ova and suitable environmental manipulation methods for obtaining maximum amounts of milt (sperm) and ova.

/fish culture/ /fish breeding/ /fertilization/
$79700 14 months
-University of Victoria. Department of Biology, Victoria, British Columbia, CA

82-1007 (SS CP)
CANADIAN AREA-SPECIFIC LEARNED SOCIETIES - 1983-1984 (CAAS) - PHASE V

The Centre has supported three Canadian area-specific learned societies since 1974. The societies foster cooperation in research on development problems between developed and developing regions for their mutual benefit. Phase V of this project will provide CAAS (the Canadian Association of African Studies) with travel support for African visiting scholars and researchers and for attendance of African graduate students in Canada at annual meetings of CAAS; funds will also go toward the publication and distribution at the society's newsletter in Canada and Africa and the distribution in Africa of the Canadian Journal of African Studies.

/SCIENTIFIC COOPERATION/ - /ORGANIZATION OF RESEARCH/
$104800 24 months
-CANADIAN ASSOCIATION OF AFRICAN STUDIES (CAAS), OTTAWA, ONTARIO, CA

82-1008 (HS)
Bio-control of Mosquitos (South Pacific) - Phase II

Dengue, a common and serious viral disease transmitted by mosquitoes, has been recognized as a serious health problem in the South Pacific islands. Phase I of this project studied the effects of two biologic agents, a pesticide, and a sanitation education program in controlling the mosquito populations on several different islands on Tuvalu. The education program and two of the control agents were found to be highly effective. Phase II will consist of an integrated program to control and perhaps eradicate Aedes (A.) Aegypti, the species of mosquito which is responsible for dengue transmission, from Funafuti, the major populated island of Tuvalu. Researchers will conduct a sanitation education campaign; train local authorities in all aspects of the mosquito control program; and apply the mosquito control agents.

/pest control/ /sanitation/ /biochemistry/ /insecticides/
$38400 12 months
-Memorial University of Newfoundland. Research Unit on Vector Pathology, St. John's, CA

82-1009 (CP)
EVALUATION OF POTENTIAL PEAT SITES IN SENEGAL

In 1980 vast deposits of peat were discovered in Senegal. Since 60 percent of all energy used in Senegal comes from wood, the use of peat could reduce the rate of desertification and soil erosion which severely affects the country. The Senegalese government is hopeful that the development of peat as an energy resource will provide at least a medium-term solution to the energy problem, including the high cost of imported fuels. The primary objective of this project is to carry out an inventory of the peat deposits in Senegal and to assess the quality and potential use of this fossil fuel in electricity production, agriculture and industry, before any major investments are made.

/FOSSIL FUELS/ - /ENERGY RESOURCES/ /RESOURCES INVENTORY/
$563900 18 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA
-COMPAGNIE DES TOURBIERES DU SENEGAL, DAKAR, SN
-SOCIETE D'INGENIERIE CARTIER LTEE, MONTREAL, QUEBEC, CA

82-1010 (CP)
Cooperative Management: A Case Study Involving Tanzania and Canada - Phase I

The government of Tanzania believes that local and regional cooperatives are important means of improving the well-being of its rural people as well as restoring national growth and productivity. It wishes to train people to establish and manage agricultural, industrial, housing, and credit co-ops. By their very nature, co-ops depend on grassroots participation and control. What then is the role of central organizations in the cooperative movement? A team of Canadian and Tanzanian researchers will study the strengths and weaknesses of the cooperative systems of the two countries, and see what strategies each uses to act effectively at the national or central level, while promoting genuine development and cooperation at the local level.

/cooperative movements/ /North-South dialogue/ /cooperatives/ /comparative analysis/ /decision making/ /trade unions/
$324450 20 months
-York University. Faculty of Environmental Studies, Downsview, Ontario, CA
-Cooperative College, Moshi, TZ

82-1011 (CP)
STRENGTHENING DATA PROCESSING AND STATISTICAL/BIOMETRICAL SERVICES AT CIMMYT

The mandate of the International Maize and Wheat Improvement Centre (CIMMYT) is to promote and carry out national and international programs to improve maize and wheat production. The mutual interest of Canada and CIMMYT in wheat, barley, triticale and maize, forms a natural bond for cooperation in many aspects of research. This project will promote cooperation in statistical analysis and biometrics research between CIMMYT and Agriculture Canada as a means of strengthening the statistical support available to CIMMYT's biological research program. Likewise, the project will provide for the development of systems software for the new CIMMYT computer facility, and provide on-site training to CIMMYT staff in the use of the newly available hardware and software.

/SCIENTIFIC COOPERATION/ - /CIMMYT/ /AGRICULTURAL RESEARCH/ /COMPUTER PROGRAMMES/
$243520 24 months
-Centro Internacional de Mejoramiento de Maiz y Trigo (CIMMYT), MEXICO, MX

82-1012 (CP)
Strategic Planning of Freight Transportation in Brazil: Quantification of Major Impacts

Transportation plays an important role in efforts towards socioeconomic development of all countries. Because of the size and the widespread distribution of natural resources in Brazil, the development of an efficient freight transportation system is seen to be essential for its economic recovery and development. The purpose of this project is to develop strategic planning tools for the evaluation of freight transportation policies for Brazil, mainly from the point of view of their implications in the area of technological changes, increases in the capacity of various modes of transportation and in the area of consumption and supply of energy. By the use of the evaluation models, various possible scenarios of the freight transportation system in Brazil will be assessed.

/freight/ /transport planning/ /transport policy/ /transport infrastructure/ /transport economics/ /evaluation/ /models/ /modes of transportation/
$462594 36 months
-Pontificia Universidade Catolica do Rio de Janeiro, Rio de Janeiro, BR
-Université de Montréal. Centre de recherche sur les transports, Montréal, Québec, CA
-International Development Research Centre (IDRC), Ottawa, CA

82-1013 (HS)
Immunodiagnosis of African Sleeping Sickness (Kenya)

Trypanosomiasis (African Sleeping Sickness) is one of several tropical diseases which severely limit economic development in Africa. Current tests for the diagnosis of African trypanosomiasis are inadequate. In recent years there has been a move to harness modern technology for the early diagnosis of trypanosomiasis. The objective of this project is to develop a simple field test, using immunological techniques, for the early diagnosis of active African trypanosomiasis. The University of Victoria, Canada, will collaborate with the Kenya Trypanosomiasis Research Institute in transferring technology and developing a simple diagnostic method that will be used by Kenyan scientists in detecting African trypanosomiasis in humans and animals.

/trypanosomiasis/ /diagnosis/ /immunology/ /disease control/
$280680   36 months
-International Development Research Centre (IDRC), Ottawa, CA
-University of Victoria, Victoria, British Columbia, CA
-Kenya Trypanosomiasis Research Institute, Nairobi, KE

82-1014 (AFNS)
Teleost LH-RH (Victoria)

The requirement for artificially-produced milkfish fry is a well documented imperative, particularly among Asian aquaculturists. An important advance in induced spawning technique is the use of luteinizing hormone-releasing hormone (LH-RH) to provoke maturation and ovulation. The LH-RH presently available is an hormone of mammalian origin and it is reasonable to expect that the teleost form of the hormone will be more reliable and effective when applied to fish of the teleost species, such as milkfish. This project is based on the development of the teleost form of the hormone and its potential application to the induced spawning of milkfish. Researchers will investigate the nature and activity of milkfish and other teleost LH-RH, specifically, comparing salmon, milkfish, tilapia and mullet LH-RH by immunological and chromotographic means.

/fish culture/ /fish breeding/ /hormones/
$16800   5 months
-University of Victoria. Department of Biology, Victoria, British Columbia, CA

82-1015 (AFNS)
Carp Genetics (Dalhousie / Indonesia) - Phase II

The life cycle of several important aquaculture species is now routinely under the control of fish farmers. This provides opportunities for genetic improvement, but also serious risks of genetic damage by inbreeding and deterioration of desired characteristics. The goal of this project is to improve aquaculture stocks of Indonesian fish farmers by developing methods for broodstock selection and control of inbreeding. Specifically, the project will formulate broodstock management procedures for common carp; produce non-inbred stocks of one to three local strains of common carp that will have considerably improved growth rates and disease resistance; and establish a program for the systematic selection of carps for disease resistance.

/fish culture/ /fish breeding/ /genetic improvement/ /disease resistance/
/animal diseases/ /fish/
$332700   36 months
-Dalhousie University. Research Services, Halifax, Nova Scotia, CA
-Research Institute for Inland Fisheries, Bogor, ID

82-1016 (CP)
Study of Jamaican Bauxite Waste

Jamaica ranks third in world bauxite production. The processing of bauxite for extraction of alumina results in the production of a slurry known as red mud. Red mud is highly caustic and hazardous to human, animal and plant life. In Jamaica this waste is discharged and stored in valleys or in artificially constructed lakes; a method of storage that places constraints on productive land supply and threatens contamination of ground water supplies. This project is aimed at finding means of disposal of red mud which will eliminate ground water contamination and the use of land for dumping. The research strategy will be to dewater the mud through flocculation. The researchers will concentrate on use of local starches (after necessary chemical modification), such as from cassava and yam, as flocculants.

/industrial wastes/ /bauxite/ /environmental effects/ /waste disposal/ /mathematical models/
$344070 36 months
-University of the West Indies (UWI). Department of Physics, Kingston, JM
-McGill University. Geotechnical Research Centre, Montréal, Québec, CA
-International Development Research Centre (IDRC), Ottawa, CA

82-1017 (CP)
Written Languages of India

India is a multilingual country where hundreds of languages are preserved, each with various functional and political values. The objective of this project is to gather sociolinguistic data in India that will help the Indian Government in its language planning in areas such as literacy and education. The project will produce a list of the written languages of India and a supplementary list of the spoken languages; and prepare a volume on India as part of the series The Written Languages of the World.

/languages/ /multilingualism/ /language teaching/ /literacy/ /teacher training/ /bibliography/
$112700 30 months
-Office of the Registrar General and Census Commissioner for India, New Delhi, IN
-Université Laval. Centre International de Recherche sur le Bilinguisme (CIRB), Québec, Qué., CA

82-1018 (SS CP)
CANADIAN AREA-SPECIFIC LEARNED SOCIETIES - 1983-84 (CASA) - PHASE V

IDRC has supported three Canadian area-specific learned societies since 1974. The societies foster cooperation in research on development problems between the developed and developing regions for their mutual benefit. Phase V of this project will provide CASA (the Canadian Asian Studies Association) with travel support for visiting Asian scholars and researchers and for attendance of Asian graduate students in Canada at the annual general meeting of CASA; funds will also go toward the society's newsletter and journal and distribution of important research papers.

/SCIENTIFIC COOPERATION/ - /ORGANIZATION OF RESEARCH/ /NORTH-SOUTH DIALOGUE/
$71800 24 months
-CANADIAN ASIAN STUDIES ASSOCIATION (CASA), OTTAWA, ONTARIO, CA

82-1019 (SS CP)
CANADIAN AREA-SPECIFIC LEARNED SOCIETIES - 1983-84 (CALACS) - PHASE V

The Centre has supported, since 1974, three Canadian area-specific learned societies. The societies foster cooperation in research on development problems between developed and developing regaions for their mutual benefit. Phase V of this project will provide CALACS (Canadian Association for Latin American and Caribbean Studies) with support for visiting scholar exchange, exchange of graduate students between Latin America and the Caribbean and Canada, distribution in Latin America and the Caribbean of CALACS' journal "North South", and publication and distribution of the society's newsletter in those regions.

/SCIENTIFIC COOPERATION/ - /SOCIAL RESEARCH/ /STUDENT EXCHANGE/
$76000 24 months
-CANADIAN ASSOCIATION OF LATIN AMERICAN AND CARIBBEAN STUDIES (CALACS), OTTAWA, ONTARIO, CA

82-1020 (SS)
Issues in Chinese Education (China and Canada) - Phase I

In the last few years educators and researchers in China have shown great interest in educational research elsewhere in the world. But while the interest in foreign ideas, technology, and experience is strong, exchanges between China and the West are constrained by widely differing environments and definitions of research. This project will build on an already existing relationship between the East China Normal University (ECNU) in Shanghai and the University of Victoria in British Columbia to support educational research and evaluation in both institutions. The project will assist ECNU in the design and implementation of several specific research projects in the fields of curriculum development, evaluation, cognitive development, educational administration, adult education and computer-assisted instruction.

/educational research/ /curriculum development/ /educational administration/ /adult education/ /programmed instruction/ /educational theory/
$96800 24 months
-East China Normal University. Faculty of Education, Shanghai, CN
-University of Victoria. Faculty of Education, Victoria, British Columbia, CA

82-1021 (CP)
INTERNATIONAL DEVELOPMENT OFFICE

This project provides support to the International Development Office in Ottawa, Canada, to continue its work with Canadian universities interested in international development. The role of the Office is defined by a liaison committee composed of members from IDRC, the Canadian International Development Agency (CIDA), and the Association of universities and Colleges of Canada (AUCC). The functions of the Office are to encourage information exchanges between Canadian universities and those in developing countries, organize conferences, publish lists of Canadian university research projects related to international development, and maintain communication links between IDRC, CISA and Canadian universities so that research needs in developing countries are made known.

/DEVELOPMENT CENTRES/ /INTERNATIONAL COOPERATION/ /UNIVERSITIES/ /information exchange/
$56007 12 months
-INTERNATIONAL DEVELOPMENT OFFICE, OTTAWA, ONTARIO, CA

82-1022 (CP)
MARINE ECOSYSTEM ENCLOSED EXPERIMENT (MEEE) - PHASE I

The marine environment is shared by all nations; and likewise it has to be cared for by all nations. Canada has been conducting Controlled Ecosystem Pollution Experiments (CEPEX) at the Institute of Ocean Sciences in Sydney, British Columbia. This project will undertake a joint research program involving Canada and China, in order to strengthen marine pollution research in China. The specific scientific aims are to understand the pathways and fate of toxic chemicals in the marine environment by conducting Marine Ecosystem Enclosed Experiments (MEEE); assess the effects, both chemical and biological, of toxic chemicals by the MEEE technique; and establish levels and processess of chemicals in ocean waters.

/MARINE POLLUTION/ - /SCIENTIFIC COOPERATION/ /MARINE ENVIRONMENT/ /TOXIC SUBSTANCES/ /OCEANOGRAPHY/
$61747 7 months
-NATIONAL BUREAU OF OCEANOGRAPHY (NBO), BEIJING, CN
-INSTITUTE OF OCEAN STUDIES (IOS), SYDNEY, BRITISH COLUMBIA, CA
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, ONTARIO, CA

83-0001 (SS)
ANTI-POVERTY PROGRAMS (KOREA)

In recent years there has been a greater awareness of social equity issues in South Korea. Since the country had made considerable progress in economic development, the new government proclaimed, in 1980, the establishment of a democratic welfare society as its national goal for the 1980s. Anti-poverty programs are being intensified with more generous funding in order to reach the developmental goal of growth with distribution. To date no studies have been undertaken to evaluate anti-poverty progams and the relationship between program characteristics and the intended recipients. This project will assess the existing anti-poverty programs in Seoul, South Korea, with the purpose of enhancing administrative effectiveness and program efficiency.

/POVERTY/ - /LIVING CONDITIONS/ /GOVERNMENT POLICY/ /SOCIAL INEQUALITY/ /PLANNING/ /policy making/
$50300 18 months
-EWHA WOMEN'S UNIVERSITY, SEOUL, KR

83-0002 (AFNS)
CROPPING SYSTEMS (CHINA)

China has made tremendous advances in increasing the stability and total production of cereals by increasing the area irrigated and the cropping intensity and yields. However, the increase in cereal production has its drawbacks. These include low returns to farmers, potential soil problems, and neglect of other foods important to diet. Research on these problems is required. Within the framework of the Asian Cropping Systems Network, researchers will evaluate all aspects of the existing cropping systems in China according to their efficiency in increasing yields, economic benefits and effects on soil fertility; develop new cropping systems with the emphasis on introducing soybean, maize, oil-bearing crops and other upland crops into rice-based cropping systems to meet rural needs and to maintain or improve soil fertility; and to conduct "wheat-rice integrated trials" and to select suitable varieties for "wheat-rice-rice" and "wheat-rice" patterns.

/CULTIVATION SYSTEMS/ - /CROP YIELD/ /SOIL FERTILITY/ /CULTIVATION PRACTICES/ /INTERCROPPING/ /PLANT BREEDING/
$414400 36 months
-CHINESE ACADEMY OF AGRICULTURAL SCIENCES, BEIJING, CN

83-0003 (HS)
BACTERIAL GROWTH IN INFANT FORMULA (CHILE)

Iron deficiency anemia is the most common form of nutritional deficiency in both developed and developing countries. To combat the problem of iron deficiency in Chilean children, the government of Chile is planning to fortify with iron all infant formula distributed through the Milk Supplementation Program of the National Health Service. However, there is concern that the presence of high levels of iron in infant formula bottles may increase the risk of diarrheal disease, by promoting the growth of bacteria in the milk. It is therefore important to clarify the nature and extent of this potential health hazard. This project will measure the growth of various bacteria in infant milk formula and evaluate the effects of iron enrichment upon the proliferation of those bacteria.

/FEEDING/ - /INFANTS/ /BACTERIA/ /MALNUTRITION/ /DIARRHEA/
$9800 6 months
-INSTITUTO DE NUTRICION Y TECNOLOGIA DE LOS ALIMENTOS (INTA), SANTIAGO, CL

83-0004 (HS)
PHARMACEUTICAL DISTRIBUTION (NEPAL)

A failing of health programs in many developing countries has been the inability to establish an effective and efficient pharmaceutical distribution system. A major problem with the delivery of health services in rural Nepal, for example, is the inadequate supply of essential drugs. Research is needed to investigate and correct this problem in Nepal. It is important to assess the entire pharmaceutical distribution scheme from logistical, financial, sociocultural, and administrative perspectives. This project will study the country's pharmaceutical distribution system, from the central purchasing of drugs in the capital city, Kathmandu, to the delivery of drug supplies to rural health centres and posts.

/PHARMACEUTICALS/ - /DISTRIBUTION/ /DRUGS/ /DISTRIBUTION NETWORK/
$29650 12 months
-INTEGRATED DEVELOPMENT SYSTEMS (IDS), KATHMANDU, NP

83-0005 (HS)
NUTRITIONAL STATUS OF PRESCHOOL CHILDREN (KOREA)

Studies have shown that malnutrition remains an important problem in South Korea, especially in rural areas among preschool children (under five years old) and mothers of child-bearing age. In South Korea primary health care programs have not given enough attention to nutrition. There is therefore a need for research to examine the current role of nutrition in primary health care and to make recommendations for improvements. This project will define the nutritional status of infants, preschool children, and their mothers in an area of rural Korea; determine the knowledge, attitudes, and behaviour of mothers with respect to their nutritional needs and the needs of their children; evaluate the performance of community health workers in the provision of nutrition education and nutrition services; and develop a nutrition intervention model.

/NUTRITION/ - /HEALTH SERVICES/ /ATTITUDES/ /BEHAVIOUR/ /HEALTH EDUCATION/
/AUXILIARY HEALTH WORKERS/
$99740 18 months
-SOON CHUN HYANG UNIVERSITY, ONYANG, KR

83-0006 (FAD)
WORKSHOP ON THE METHODOLOGY OF APPLIED RESEARCH IN THE HEALTH SCIENCES - LIBERIA

Researchers and policymakers need to become aware of the potentially important role of applied research in solving major health problems. This project will support a workshop designed to expose health care researchers, potential researchers, managers, and policymakers to the basics of applied research methodology and its important role in solving major health problems. Participants will be drawn from Liberia, the Gambia, Malawi, Cameroon, Zambia, Zimbabwe, and Lesotho. The workshop will be held at the Fendall Campus of the University of Liberia, outside Monrovia, from July 24 to August 6, 1983.

/METHODOLOGY/ - /APPLIED RESEARCH/ /HEALTH SERVICES/ /MEDICAL RESEARCH/
$64200 6 months
-A.M. DOGLIOTTI COLLEGE OF MEDICINE, UNIVERSITY OF LIBERIA, MONROVIA, LR

83-0007 (HS)
RURAL WATER FLUORIDES (KENYA) - PHASE II

Studies have revealed high levels of fluoride in drinking water in some parts of Kenya. While low doses of fluoride are beneficial in preventing tooth decay, long-term exposure to high doses of fluoride in water can have serious effects on teeth and the human bony skeleton, leading to a condition known as fluorosis. The objectives of phase I of this project were to assess the feasibility of defluoridating Kenyan water supplies, document fluoride levels, and carry out a survey to establish the effects of fluorosis on the population. Phase II will add to the existing knowledge on fluoride sources, fluorosis, and defluoridation in Kenya in order to develop an effective fluorosis-prevention program.

/drinking water/ /water quality/ /water treatment/
$65900 30 months
-UNIVERSITY OF NAIROBI, NAIROBI, KE

83-0008 (AFNS)
SORGHUM IMPROVEMENT (SOMALIA) - PHASE II

Sorghum is the staple cereal for most inhabitants of Somalia, a seriously food-deficient nation. In phase I of this project, the foundations of an enduring national sorghum program were laid. In phase II, researchers will continue work begun in phase I. To improve sorghum production and utilization, they will develop technology acceptable to small farmers in the rainfed growing areas of Somalia. Specifically, phase II will support research to develop high and stable-yielding sorghum cultivars that mature quickly, resist drought, diseases, pests and birds, and are acceptable to Somalian farmers; improve soil and crop management practices; and train local scientists in order to strengthen Somalia's research capacity.

/SORGHUM/ - /GENETIC IMPROVEMENT/ /PLANT BREEDING/ /CULTIVATION PRACTICES/ /HYBRIDIZATION/
$479500 36 months
-MINISTRY OF AGRICULTURE, MOGADISHU, SO

83-0009 (SS)
INTERNATIONAL CONTRACT LABOUR (INDONESIA)

Indonesia is one of several Asian countries that have been sending contract workers to the Middle East. The government has promoted overseas employment to increase the flow of foreign exchange through remittances, to ease the serious unemployment problem, and to improve the standards of living of the migrants' families. To facilitate the flow of workers, Indonesian planners urgently require information on the country's temporary labour migration to the Middle East, its characteristics, and its social, and economic impact on the sending community. Researchers will examine the effects of Middle Eastern remittances on national balance of trade payments; describe the demographic, social, and economic characteristics of migrant workers and their families; describe the working and living conditions of Indonesian workers in the Middle East; and examine the social and cultural impacts of migration.

/LABOUR MIGRATIONS/ - /CONTRACT LABOUR/ /REMITTANCES/ /MIGRANT WORKERS/ /WORKING CONDITIONS/ /MOTIVATIONS/ /ECONOMIC IMPLICATIONS/ /SOCIAL IMPLICATIONS/ /CULTURAL FACTORS/
$38500 18 months
-ATMA JAYA FOUNDATION, JAKARTA, ID

83-0010 (SS)
TECHNOLOGY, EMPLOYMENT AND EDUCATION (URUGUAY)

Uruguay has not been able to create employment or establish firms that can compete internationally. The problem will become more acute as current technological innovations make capital investment cheaper and require skills different from those being taught in schools. Researchers in this project will review and analyze the nature and type of employment and unemployment in Uruguay; examine the educational system and its effect on the level and quality of labour supply; and review recent changes in the Uruguayan economy with particular reference to the impact of technology.

/TECHNOLOGICAL CHANGE/ - /EDUCATIONAL SYSTEMS/ /EMPLOYMENT OPPORTUNITIES/ /UNEMPLOYMENT/ /LABOUR SUPPLY/
$23650 4 months
-CENTRO DE INFORMACIONES Y ESTUDIOS DEL URUGUAY (CIESU), MONTEVIDEO, UY

83-0011 (AFNS)
DEHYDRATED FRUITS/VEGETABLES (SRI LANKA/

The production of fruits and vegetables in the dry zone of Sri Lanka is highly seasonal, and severe shortages occur during the long dry period. To ensure adequate supplies, processes to preserve fruits and vegetables should be developed and improved. The purpose of this project is to develop techniques for the production and marketing of dried fruits and vegetables suitable to the small-scale farmers of the dry zone. Researchers will select fruits and vegetables for dehydration trials and then conduct research to assess demand for the dehydrated produce in rural and urban markets. Solar driers will be introduced to farms in the dry zone and modifications to traditional fruit and vegetable processing will be tested.

/DEHYDRATED FOOD/ - /FRUITS/ /VEGETABLES/ /post-harvest systems/ /FOOD PROCESSING/ /QUALITY STANDARDS/ /DRYING/ /MARKETING/ /ARID ZONE/
$12200 12 months
-CEYLON INSTITUTE OF SCIENTIFIC AND INDUSTRIAL RESEARCH (CISIR), COLOMBO, LK

83-0012 (FAD)
MEDICAL EXCHANGE PROGRAM - PHASE I

In tropical medicine, the advances achieved during colonial periods have waned in the last few decades. The diagnosis and therapy of tropical illnesses remain relatively primitive despite an ever-increasing disease burden on developing country populations. In order to increase the number of Canadian physicians expert in tropical medicine and international health, medical students and post-graduate physicians must be exposed at early stages in their training to tropical medicine, research and public health programs in field settings in developing countries. This project will provide support for the Canadian Society for Tropical Medicine and International Health and the Canadian Public Health Association to establish a medical exchange program. Medical students and post-graduate physicians will be exchanged between developing country and Canadian institutions for three- to four-month training periods.

/STUDENT EXCHANGE/ /MEDICAL EDUCATION/ /PHYSICIANS/
$198510 24 months
-CANADIAN SOCIETY FOR TROPICAL MEDICINE AND INTERNATIONAL HEALTH, OTTAWA, ONTARIO, CA

83-0013 (SS)
BIRTH INTERVAL DYNAMICS (INDIA)

Many attempts have been made to study and explain India's continuing high fertility. Most studies have focussed on the social and economic determinants of fertility, including education, income and the financial contribution of children. While these studies have been useful in describing broad relations between socioeconomic characteristics and fertility, they have been largely unable to explain the underlying reasons for these associations. There is a need to examine the variables through which socioeconomic factors influence fertility. This project will analyze the components of fertility change in 11 villages in the Khanna area of Punjab State in India, concentrating upon the variables through which socioeconomic factors influence fertility, in particular, birth intervals.

/FERTILITY/ - /FAMILY SIZE/
$264300 30 months
-NATIONAL COUNCIL OF APPLIED ECONOMIC RESEARCH (NCAER), NEW DELHI, IN

83-0014 (AFNS)
CROPPING SYSTEMS (COLOMBIA)

The National University of Colombia has been conducting research and development in agricultural areas in the south of Bogota. The Usme Experimental Regional Development project has priority within the University's Faculty of Agronomy. It has been active for two and a half years and has contributed to community organization, improvement of crop-production techniques, and the introduction of new species and varieties of vegetables and fruit crops. This grant will support the on-farm cropping systems research component of the Usme project. Researchers will develop improved varieties of potatoes, peas and onions, as well as improved production and marketing techniques suitable for introduction to the cropping systems of small-scale farmers of the Usme district of Colombia.

/CULTIVATION SYSTEMS/ /vegetable crops/ /fruit crops/ /SOIL FERTILITY/ /PLANT BREEDING/ /PLANT DISEASES/ /CULTIVATION PRACTICES/
$167200 36 months
-UNIVERSIDAD NACIONAL DE COLOMBIA, BOGOTA, CO

83-0015 (AFNS)
CROPPING SYSTEMS (COSTA RICA)

The population of the low humid tropics of Costa Rica's Atlantic plains is growing rapidly. The area is one of the last agricultural frontier lands in the country. The Institute of Agrarian Reform (IDA) fosters development in this area through the promotion of "development areas", such as the community of Rio Frio. Under this scheme, land and basic support services are provided to landless farmers for their agricultural activities and family needs. This project will support IDA's program in Rio Frio by undertaking research on the cropping systems of small scale farmers. The aim is to develop alternative cropping systems to increase their productivity. Researchers will undertake an economic and agronomic evaluation of activities, methods, and crops adapted or adopted by farmers in Rio Frio. Cultivation practices and systems will be examined for the following crops: maize, common beans, cowpeas, cassava, rice, sweet potatoes, and cocoa.

/CULTIVATION SYSTEMS/ - /TROPICAL ZONE/ /CROP YIELD/ /CULTIVATION PRACTICES/ /MAIZE/ /BEANS/ /COWPEAS/ /CASSAVA/ /RICE/ /SWEET POTATOES/ /COCOA/ /INTERCROPPING/
$260200 36 months
-UNIVERSIDAD DE COSTA RICA, SAN JOSE, CR

83-0016 (FAD)
GROUP TRAINING COURSE ON DEVELOPING RESEARCHERS FOR EDUCATIONAL DEVELOPMENT PROJECTS

This project will enable the Regional Centre for Educational Innovation and Technology (INNOTECH), Quezon City, Philippines, to offer a training program to upgrade the research skills of project managers and researchers of specific national educational development projects in Southeast Asia. Researchers from Indonesia, Malaysia, Philippines, and Thailand will undertake a 10-week course to be held at INNOTECH and a two-week on-site follow-up training course. The program aims to provide participants with the specific skills needed to implement, monitor, evaluate, and disseminate project results and to enable them to apply research skills to current educational projects.

/TRAINING PROGRAMMES/ - /EDUCATIONAL PROJECTS/ /EDUCATIONAL RESEARCH/ /PROJECT DESIGN/ /PROJECT EVALUATION/
$52760 6 months
-SEAMEO REGIONAL CENTRE FOR EDUCATIONAL INNOVATION AND TECHNOLOGY (INNOTECH), QUEZON CITY, PH

83-0017 (SS)
TECHNOLOGY AND INTERNATIONAL INVESTMENTS BY SMALL FIRMS (ARGENTINA)

Multinational enterprises contribute to the productive resources, access to technology and employment of developing countries. But they often do so in terms of their own interests rather than those of the host country. In recent years increasing attention has been paid to the potential of technologically advanced medium- and small-sized companies from developed countries as a source of knowledge and skill for developing countries. Cooperation with such firms may be more compatible with the national development goals of developing countries. The purpose of this project is to examine the role and behaviour of smaller companies (non multinationals) in host developing countries with particular emphasis on the transfer of technology. Researchers will undertake case study research in Argentina and Brazil.

/TECHNOLOGY TRANSFER/ - /FOREIGN INVESTMENTS/ /FOREIGN ENTERPRISES/ /BIBLIOGRAPHY/
$98500 14 months
-CENTRO DE ESTUDIOS JURIDICOS ECONOMICOS INTERNACIONALES, BUENOS AIRES, AR

83-0018 (AFNS)
PADDY AND RICE PHT (MALAYSIA)

Two post-production problems faced by Malaysian rice producers are wet paddy handling and inadequate storage facilities. Over 90 percent of all paddy is purchased by urban dwellers away from the production site, forcing producers to store milled rice. To reduce losses, the Dehumidified Storage System, with air-recycling and fumigation facilities, was recently constructed. It has not yet been tested, however, under operating conditions. This project will develop improved technologies for the handling of wet paddy and milled rice. Specifically, the project will develop and test partial-drying and handling technology for wet paddy for use at storage depots; test and evaluate technologies for dehumidified bulk storage for paddy and milled rice; and provide training in the use of the technology developed.

/RICE/ - /post-harvest systems/ /DRYING/ /GRAIN PROCESSING/ /STORAGE/
$118900 36 months
-MALAYSIAN AGRICULTURAL RESEARCH AND DEVELOPMENT INSTITUTE (MARDI), SELANGOR, MY

83-0019 (HS)
WATER SYSTEMS EVALUATION (COLOMBIA)

In an attempt to supply rural communities with safe drinking water, Colombia, like many developing countries, has allocated resources for the construction of small-scale community water systems. Some of these systems have deteriorated and now deliver contaminated water or have ceased to function altogether. The objective of this project is to identify administrative and technical problems associated with the operation and maintenance of Colombia's rural community water supply systems. Researchers will collect and evaluate technical and socioeconomic information from water system users, operators and administrators; analyze policies and procedures regarding water system administration and maintenance; and develop guidelines and disseminate recommendations for the optimum administration and maintenance of these systems.

/WATER SUPPLY/ - /MAINTENANCE AND REPAIR/ /WATER QUALITY/ /WATER CONSUMPTION/ /WATER TREATMENT/
$105800 18 months
-FUNDACION PARA LA EDUCACION SUPERIOR (FES), CALI, CO

83-0020 (HS)
ORAL CONTRACEPTIVES/LACTATION (KOREA)

Evidence has been accumulating that oral contraceptive pills containing medium- or high-dose estrogen may have adverse effects on lactation in women who are breast-feeding. As a result, low-dose estrogen and progestin-only oral contraceptive pills have been advocated as preferable methods of contraception in lactating women and are now widely used in developing countries. There is, however, insufficient and conflicting data on the mechanism of action of these formulations, and on their effects on the quantity and quality of breast milk. This project will enable researchers in South Korea to conduct two studies involving commonly used low-dose estrogen and progestin-only contraceptive pills. The first study will investigate the physiological mechanism of action of these formulations by examining their effect on the function of the hypothalamic-pituitary-ovarian axis. The second study will examine their effect on milk volume and milk composition in lactating women.

/ORAL CONTRACEPTIVES/ - /breast feeding/ /MATERNAL AND CHILD HEALTH/ /HORMONES/
$110820 24 months
-YONSEI UNIVERSITY MEDICAL CENTRE, SEOUL, KR

83-0021 (AFNS)
PADDY GRADING (MALAYSIA)

Although new high-yielding and fast maturing cultivars of rice have been widely adopted in several Asian countries, postharvest losses continue at a higher than acceptable level. Furthermore, scant attention has been given to the formulation of reliable grading standards. In Malaysia there are grading systems for both paddy and milled rice. While the grading system for milled rice is acceptable, the one for paddy is not. This project will develop an efficient, objective and practical paddy grading system acceptable to both farmer and buyer in Malaysia. Researchers will determine the relationships between various physical characteristics of paddy and the quality of milled rice; develop a rapid and accurate procedure for sampling and testing for these characteristics; develop a new paddy pricing schedule based on the new grading system; and determine the acceptability to farmers of the new system.

/post-harvest systems/ - /RICE/ /GRAIN PROCESSING/ /QUALITY STANDARDS/
$74600 36 months
-LEMBAGA PADI DAN BERAS NEGARA (LPN), KUALA LUMPUR, MY

83-0022 (AFNS)
PLANTAINS (CAMEROON) - PHASE II

Plantains are an important subsistence food crop throughout the rain forest zone of West Africa. Recently, black sigatoka disease, a variant of the common yellow leaf spot of plantains and bananas, was identified for the first time in Africa, in Gabon and South Cameroon. This disease is expected to spread widely in Africa and cause serious losses in the production of both plantains and bananas. In phase I of this project, work was started on measures to counter the serious threat posed by the spreading black sigatoka disease to the whole plantain and banana crops in Cameroon. The general objective of phase II is to develop improved cultivars, agronomic techniques and marketing systems for small-scale producers of plantains, bananas and associated crops. Continuing work begun in phase I, researchers will test and select plantain cultivars for high and stable yield, and disease and pest resistance.

/BANANAS/ - /TROPICAL ZONE/ /GENETIC IMPROVEMENT/ /PLANT DISEASES/ /CULTIVATION PRACTICES/ /INTERCROPPING/ /post-harvest systems/ /MARKETING/
$174900 36 months
-DELEGATION GENERALE DE LA RECHERCHE SCIENTIFIQUE ET TECHNIQUE, YAOUNDE, CM

83-0023 (SS)
LOW-COST TRAVEL MODES (SOUTH ASIA)

Poor people in the cities of South Asia usually get around by traditional transport modes, powered by muscle or small engines. Researchers have agreed that, while government agencies are planning for and trying to manage traditional transport, they have little information on which to base their actions. This project will gather and analyze information on the traditional transport sector in three cities of South Asia (Dhaka in Bangladesh, Kathmandu in Nepal and Trivandrum in India) in order to improve urban transport planning. Researchers will evaluate the role of mass transport in meeting the needs of the urban poor and will analyze transport and modernization policies, particularly with regard to low-cost transport.

/URBAN TRANSPORT/ - /LOW INCOME/ /MODES OF TRANSPORTATION/ /TRANSPORT PLANNING/ /MODERNIZATION/ /URBAN AREAS/ /COMPARATIVE ANALYSIS/
$154000 24 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA
-HOUSING AND ENVIRONMENTAL RESEARCH CELL (HERC), BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DACCA, BD
-NATIONAL TRANSPORTATION PLANNING AND RESEARCH CENTRE (NATPAC), NEW DELHI, IN
-CENTRE FOR ECONOMIC DEVELOPMENT AND ADMINISTRATION (CEDA), KATHMANDU, NP

83-0024 (AFNS)
LAND USE SURVEY (ZIMBABWE)

Zimbabwe has developed an enviable system of agricultural research to support large commercial farmers. However, further agricultural expansion and future equity in the country depend on the extension of this agricultural research success to the communal agricultural areas where over 750 000 households earn their living. Such improvements in communal-land agriculture are particularly essential in the semi-arid and arid regions of Zimbabwe, areas which have been largely neglected in the past. This project will undertake socioeconomic research and resource surveys of the semi-arid and arid Sebungwe area southeast of Lake Kariba. Researchers will study the region's marketing system and its relationship to farm production systems in the region, and will also carry out a soil survey of the region to identify areas suitable for irrigation.

/AGRICULTURAL PLANNING/ /ARID ZONE/ /AGRICULTURAL PRODUCTION/ /AGRICULTURAL MARKET/ /CULTIVATION SYSTEMS/ /SOIL SURVEYS/ /IRRIGATION/
$144100 18 months
-UNIVERSITY OF ZIMBABWE, HARARE, ZW

83-0025 (AFNS)
FOOD LEGUMES (MALI) - PHASE II

In phase I of this project researchers sought to develop high- and stable-yielding cowpea cultivars resistant to drought, pests and diseases, and acceptable to Malian farmers. The research begun in phase I will continue in phase II, but will also include bambarra groundnuts. Researchers will survey the existing food legume production methods and farming systems in Mali; select cowpea and bambarra groundnut cultivars adapted to each of the agro-ecological zones within Mali; develop packages of agronomic practices for both monocropped and intercropped cowpeas and bambarra groundnuts; and train Malian scientists to undertake the food legume research program.

/LEGUMINOSAE/ - /COWPEAS/ /GROUNDNUTS/ /GENETIC IMPROVEMENT/ /PLANT BREEDING/ /INTERCROPPING/ /CULTIVATION PRACTICES/ /FOOD PREPARATION/ /CONSUMER BEHAVIOUR/ /STORAGE/
$198920 36 months
-MALI. MINISTERE DES AFFAIRES EXTERIEURES ET DE LA COOPERATION INTERNATIONALE, BAMAKO, ML

83-0026 (HS)
INTRODUCING PVC HANDPUMP (THAILAND)

Since 1976 IDRC has been actively supporting research on the development of an inexpensive handpump that can be operated and maintained by villagers. Most of the internal components of this pump are made of polyvinyl chloride (PVC) an inexpensive material readily available in most developing countries. Field tests demonstrated that the pump holds considerable promise for use in developing countries. The need for handpumps is especially acute in northeastern Thailand, the poorest and driest region of the country. The overall objective of this project is to determine an effective strategy for promoting the acceptance and adoption of the PVC handpump. Researchers will install PVC handpumps in northeastern Thai villages; test several ownership schemes for the pumps; train villagers to maintain the pumps; monitor the technical performance of the pumps and water quality; and develop a handbook in Thai to increase local awareness of the technology.

/PUMPS/ - /MAINTENANCE AND REPAIR/ /ENGINEERING DESIGN/ /WATER QUALITY/
$142500 24 months
-POPULATION AND COMMUNITY DEVELOPMENT ASSOCIATION, BANGKOK, TH

83-0027 (SS)
HOUSING POLICIES IN ASUNCION (PARAGUAY)

In the last decade Paraguay's economy has been characterized by rapid growth. This is due, in part, to the construction of the world's largest dam, whose hydroelectric power promises to transform rapidly Paraguay's social and economic structures. The rapid growth of the capital city, Asuncion, has been accompanied by a serious worsening of housing conditions. There is a shortage of evaluative research on housing in Paraguay--research which could serve as a basis for improving and expanding housing programs, particularly for the urban poor of greater Asuncion. The purpose of this project is to provide a better understanding of housing policies in Asuncion since the 1960s. Researchers will review the major economic, social, and political trends in the country since the 1960s; analyze housing policies for the low-income population; assess housing needs; and consider the potential contribution of mutual help programs.

/HOUSING/ - /HOUSING NEEDS/ /SELF-HELP/ /LOW INCOME/ /URBANIZATION/
/GOVERNMENT POLICY/
$48400 12 months
-SOCIEDAD DE ANALISIS, ESTUDIOS Y PROYECTOS (SAEP), ASUNCION, PY

83-0028 (SS)
URBAN SERVICES IN MONTERIA (COLOMBIA)

The damming of the upper Sinu River in Colombia will considerably change the ecosystem of the river basin and is expected to cause a massive influx of rural migrants into the city of Monteria. This influx will place a heavy burden on the service infrastructure of the city, which is already inadequate. There is therefore an obvious need for a thorough study of urban services, an assessment of priorities, and a projection of service needs over the next several years in order to accommodate the additional population. This project will study the expansion of the urban services infrastructure of Monteria in relation to the city's population growth, focussing on water, sewerage, electricity, roads, sanitation, and housing.

/PUBLIC SERVICES/ - /URBAN AREAS/ /RURAL MIGRATIONS/ /URBAN PLANNING/
/COST ANALYSIS/ /ROADS/ /SANITATION/ /HOUSING/
$30500 12 months
-CARIBBEAN FOUNDATION, MONTERIA, CO

83-0029 (HS)
LACTATION/AMENORRHEA (EGYPT) - PHASE II

Breast-feeding is of particular importance to maternal and child health in developing countries because it provides the child with a nutritious diet and has a contraceptive effect on the mother. In Egypt, prolonged breast-feeding has always been common practice. Phase I of this project gathered information on the duration of postpartum amenorrhea (absence of menstruation after giving birth) in urban and rural women in relation to breast-feeding patterns and nutritional status. Urban/rural differences were observed. Phase II will enable researchers to take the work performed in phase I a step further by determining the pattern of ovulation in nursing women during and after the period of postpartum amenorrhea. Researchers will observe any differences in the time of resumption of ovulation between urban and rural women and will study various social, nutritional and medical factors that may be determinants of the length of the postpartum anovulatory period.

/breast feeding/ - /FERTILITY/ /GYNAECOLOGY/ /CONTRACEPTION/
$122430 36 months
-UNIVERSITY OF ALEXANDRIA, ALEXANDRIA, EG

83-0030 (HS)
ANTENATAL/PERINATAL CARE (SUDAN)

In Sudan, as in many other developing countries, the resources available for the delivery of maternity health care are meagre. Research is therefore needed to develop methods by which maternity care services can be made more equitable, effective and efficient. This project will enable researchers to study the problems in the delivery of maternity care services in rural Sudan, and to test and evaluate a method of improving them. Specifically, the project will attempt to strengthen the system of maternity care services in a rural area of the country, using a community-based approach and emphasizing in-service training and supervision; evaluate the effect of intervention on pregnancy outcome; and examine various social, cultural and medical characteristics of the families studied, in order to better define indicators of high risk.

/MATERNAL AND CHILD HEALTH/ - /HEALTH SERVICES/ /EVALUATION/
$205570 36 months
-UNIVERSITY OF KHARTOUM, KHARTOUM, SD

83-0031 (HS)
HOSPITAL WASTEWATER (THAILAND)

Fecally contaminated surface water used for domestic purposes by unaware villagers is a major source of waterborne diseases in developing countries. Discharges of raw sewage from hospitals in which people with these diseases are treated pose serious hazards to public health. In Thailand, the Ministry of Public Health is seeking a simple, inexpensive method of treating wastewater. A design combining Imhoff tanks and anaerobic upflow filters is thought to be the answer. This project will investigate the technical efficiency and economic feasibility of this method in a demonstration hospital in Thailand. Researchers will design and construct a full-scale working model; investigate the use of locally available, low-cost construction materials; test the operational efficiency of the treatment system; evaluate the cost of the treatment process; and develop instructional manuals on the design, construction, operation and maintenance of the system.

/WATER TREATMENT/ - /WASTE WATERS/ /HOSPITALS/ /SANITATION SERVICES/ /ENGINEERING DESIGN/ /MAINTENANCE AND REPAIR/ /COST ANALYSIS/ /EFFICIENCY/
$103700 36 months
-MINISTRY OF PUBLIC HEALTH, BANGKOK, TH

83-0032 (COMM)
SCIENTIFIC JOURNALISM TRAINING COURSE

This project funds a two-week training course for journalists who write scientific articles in Africa. The course will take place at a school of journalism in Yaoundé, Cameroon and will host about fifteen science writers from Burundi, Cameroon, the Central African Republic, the Congo, the Ivory Coast, Gabon, Mali, Rwanda, Senegal, Togo and Zaire. Previous work of the journalists will be analyzed at the seminar and new articles will be written. The journalists will have an opportunity to visit and report on two agricultural projects funded by IDRC in Cameroon. The participants will be encouraged to publish articles that result from the workshop.

/TRAINING COURSES/ - /WRITING/ /SCIENCE/ /JOURNALISTS/
$34200 5 months
-ECOLE SUPERIEURE DES SCIENCES ET TECHNIQUES DE L'INFORMATION (ESSTI), YAOUNDE, CM

83-0033 (SS)
ECONOMIC CRISIS AND URBAN SURVIVAL STRATEGIES (CENTRAL AMERICA)

Problems of rising inflation, unemployment, balance-of-payment deficit, and public debts have been particularly acute in Central America. The hardest hit by the economic crisis have been low-income people whose standards of living are close to mere survival. Many researchers wonder how the urban poor in such countries as Costa Rica and Honduras manage to survive. To answer this and related questions, a joint team of researchers from Costa Rica and Honduras will analyze the impact of the economic crisis on survival strategies among the low-income population of San José, Costa Rica, and Tegucigalpa, Honduras. Researchers will analyze changing income patterns of poor families, and the role of informal employment in providing income; determine household expenditure patterns; and assess the role of grassroots and community organizations in fulfilling some of the basic needs of the urban poor.

/BASIC NEEDS/ - /ECONOMIC RECESSION/ /LOW INCOME/ /URBAN AREAS/ /INCOME/ /INFORMAL SECTOR/ /WELFARE/
$53600 18 months
-CONFEDERACION SUPERIOR UNIVERSITARIA CENTROAMERICANA (CSUCA), SAN JOSE, CR

83-0034 (IS)
DATE PALM INFORMATION CENTRE (NENADATES)

Date palms were originally cultivated in the Near East and North Africa, and are among the oldest cultivated crops in the world. As date trees die, few new plantations are being established because of the high cost of production and low prices for produce. Better information facilities are needed to support research into date palms. This project will assist the Regional Project for Palm and Dates Research Centre in the Near East and North Africa to establish an information storage and retrieval system to serve researchers and extension officers trying to help small-scale farmers in poor areas of the region. A bibliography on the date palm and a directory of researchers also will be published.

/DATE PALMS/ - /INFORMATION SERVICES/ /INFORMATION DISSEMINATION/ /BIBLIOGRAPHY/ /DIRECTORY/
$205700 24 months
-PALM AND DATES RESEARCH CENTRE IN THE NEAR EAST AND NORTH AFRICA (NENADATES), BAGHDAD, IQ

83-0035 (AFNS)
SWEET POTATOES (PHILIPPINES) - PHASE II

In phase I of this project, the polycross breeding technique for the sweet potato was introduced in the Philippines. The technique was a success with over 160 000 seeds produced and 30 000 sweet potato types harvested and screened. Phase II will enable scientists to continue work begun in phase I and in so doing benefit the poor farmers throughout the Philippines and other Asian countries. Researchers will acquire, document and maintain a sweet potato germ plasm collection; increase sweet potato genetic variability; screen sweet potato types from seed for high yield, and resistance to insects and diseases; identify varieties acceptable to consumers and of good storage stability; and evaluate the profitability and acceptance of the high-yielding, short-duration sweet potatoes among the farmers.

/SWEET POTATOES/ - /GENETIC IMPROVEMENT/ /PLANT BREEDING/ /CULTIVATION PRACTICES/ /MARKETING/
$379900 48 months
-VISAYAS STATE COLLEGE OF AGRICULTURE (VISCA), PASAY CITY, PH

83-0036 (AFNS)
AGROFORESTRY (KENYA)

Traditional methods of farming and ranching have led to a low standard of living for much of the rural population in Kenya. The semi-arid lands of sub-Saharan Africa were identified by the International Council for Research in Agroforestry (ICRAF) as one of the ecological zones in which agroforestry research should be initiated. This project will develop agroforestry systems for the semi-arid areas of Kenya and other East African countries. Specifically, researchers will increase the productivity of the crop production system by establishing hedgerows in the cropland; improve the quantity, quality and seasonal distribution of forage on the farm by planting fodder tree/shrub species in the grazing areas and by developing cut-and-carry forage systems; and reduce the fencing costs and labour needed for the free-grazing system by establishing "live" fences around the grazing land.

/AGROFORESTRY/ - /GRAZING/ /FOOD PRODUCTION/ /SHELTERBELT/ /FORAGE CROPS/ /TREES/ /SOIL EROSION/ /SOIL CONSERVATION/
$386300 48 months
-KENYA AGRICULTURAL RESEARCH INSTITUTE, NAIROBI, KE

83-0038 (COMM)
SCIENCE WRITERS MANUAL (PFA - PHILIPPINES)

The Press Foundation of Asia (PFA) has been active in the field of science writing for several years. The Foundation has organized and run a number of courses for science writers, throughout South and Southeast Asia. From these activities and feedback obtained, it has been demonstrated that a major obstacle to improving science coverage in Asia is the lack of a well written manual on science writing. Such a manual is urgently needed for both practicing science writers and journalism students. This project will allow PFA, in cooperation with a Canadian expert, to prepare a reference text on science writing and to interest more young Asian journalists in writing about science and technology.

/MANUAL/ - /WRITING/ /SCIENTIFIC INFORMATION/ /TECHNICAL INFORMATION/
$13775 10 months
-PRESS FOUNDATION OF ASIA (PFA), MANILA, PH

83-0039 (IS)
ATLAS OF ETHIOPIA - PHASE I

National atlases have been produced for many developing countries, particularly in Africa. Their publication could well be attributed to the pressing need for useful and synthesized information for development planning and administration at the national and regional levels. In Ethiopia, the production of a national atlas has not been entirely ignored, but such plans have lagged behind similar efforts in other African countries such as Kenya (1970), Madagascar (1971) and Zambia (1972). In 1981, the Ethiopian Mapping Agency (EMA) produced a provisional edition of a national atlas which included 90 black-and-white maps. This project will enable IDRC to produce a national atlas of Ethiopia, consisting principally of 64 pages of coloured maps and accompanying texts.

/ATLASES/ - /MAPS/
$167080 24 months
-ETHIOPIAN MAPPING AGENCY (EMA), ADDIS ABABA, ET

83-0040 (AFNS)
TRADITIONAL BREAD (EGYPT)

Bread accounts for 70 percent of the average Egyptian's daily intake of calories and protein. The most common type is a two-layer, flat, sourdough bread, called balady bread. Twenty-five percent of balady bread produced is discarded due to poor quality. To reduce the waste, the government of Egypt has put high priority on research into the quality of balady bread. The objectives of this project are to identify the major sources and amounts of loss in the production and marketing of balady bread in Egypt; and to identify areas for further research to reduce these losses. A survey will be conducted to gather information about the raw materials used in the baking processes, the loss associated with each step, quality standards used by bakeries and consumers, economic constraints within which bakeries operate, problems associated with distribution and retailing, and losses in the home.

/BREAD/ - /FLOUR/ /QUALITY STANDARDS/ /FOOD PROCESSING/ /BAKING/
$44600 6 months
-MINISTRY OF AGRICULTURE AND FOOD SECURITY, DOKKI, GIZA, EG

83-0042 (HS)
DEPARASITIZATION/MALNUTRITION (COLOMBIA) - PHASE II

Parasites deplete the supply of nutrients to the human body and constitute an additional physiological stress when malnutrition is involved. To deal with this problem, mass deparasitization projects have been carried out, some with considerable success. Phase I of this project studied the effectiveness of periodic administration of the antiparasitic drug mebendazole in improving nutritional status of children in Colombia. Among children treated periodically with mebendazole indicated there was a marked decrease in the incidence of malnutrition and helminthic infestation. However, it was also found that mebendazole has no effect on protozoal infections. Phase II will determine whether combined treatment of both protozoal and helminthic infections using mebendazole and teclozan is more effective in improving nutritional status than the single treatment of helminthic infections using mebendazole.

/MALNUTRITION/ - /PARASITES/ /HEALTH SERVICES/ /DRUGS/
$105700 22 months
-FUNDACION PARA LA EDUCACION SUPERIOR (FES), CALI, CO

83-0043 (SS)
EDUCATION AND SOCIAL STRUCTURE: ACTORS AND PROCESSES IN THE EDUCATION SYSTEM (CHILE) - PHASE II

Phase I of this project permitted the Interdisciplinary Program for Research in Education (PIIE) to lay the groundwork for an integrated program of research, training, and dissemination. It allowed the Chilean institution to participate more directly in discussions about the role of the educational system in development and in the implementation of public policy in education, and about the forms and types of participation by parents, students and teachers. In Phase II, PIIE will continue research on four complementary themes dealing with the relationship between education and society as affected by state policies. Specifically, phase II will review state educational policies and practices and their effects on access to education; identify the roles of teachers; examine non-formal education activities; and examine the teaching/learning process.

/EDUCATIONAL POLICY/ - /ACCESS TO EDUCATION/ /SOCIAL ASPECTS/ /TEACHERS/ /SOCIAL ROLE/ /NON-FORMAL EDUCATION/ /TEACHING METHODS/
$315000 24 months
-PROGRAMA INTERDISCIPLINARIO DE INVESTIGACIONES EN EDUCACION (PIIE), SANTIAGO, CL

83-0045 (SS)
FAMILY PLANNING PERFORMANCE EVALUATION (INDONESIA)

Indonesia's national family planning program has been recognized as one of the most successful in the Third World. The National Family Planning Coordinating Board (NFPCB) produces an annual ranking of program performance for each district and sub-district, based on the number of new acceptors. This exercise has revealed regional differences in family planning program effectiveness. This project will investigate the factors influencing the differential success of the Indonesian program in the various districts and sub-districts of Java and Bali. Researchers will obtain census information on the socioeconomic and cultural characteristics of households; project future patterns of contraceptive use for planning purposes; and develop a methodology for the improvement of data collection and evaluation techniques within the NFPCB.

/FAMILY PLANNING/ - /EVALUATION/ /REGIONAL DISPARITY/
$71000 24 months
-CENTRAL BUREAU OF STATISTICS, JAKARTA, ID

83-0047 (IS)
RIALIDE - NETWORK STRENGTHENING

The Latin American Association of Development Financing Institutions (ALIDE) is the international body representing development banking in the region. As part of its functions, ALIDE tries to maintain a continuous flow of information among association members through its information network (RIALIDE). The information units of the RIALIDE national centres vary considerably in their levels of development and operation. Technical training for the personnel of these units would help to create a better balance between the supply and demand for information as well as assist in the further development of the RIALIDE network. This project will strengthen the RIALIDE network by improving the technical capacity of the national centres. Three main activities will be undertaken in this project: a training workshop, technical assistance missions to participating centres, and a project evaluation meeting.

/INFORMATION NETWORK/ - /FINANCIAL INSTITUTIONS/ /DEVELOPMENT BANKS/
$73985 24 months
-ASOCIACION LATINOAMERICANA DE INSTITUCIONES FINANCIERAS DE DESARROLLO (ALIDE), LIMA, PE

83-0048 (IS)
INDUSTRIAL EXTENSION MANUAL - ASIA

The urgent need for a practical manual to facilitate the work of industrial extension officers in Asia has long been felt by managers of extension services. The need is accentuated by the growing importance attached by policymakers and development planners to industrial extension services in the development of small industries. Technonet Asia is a network of 14 organizations from 11 countries. It aims at improving the quality and efficiency of production in small and medium-scale enterprises. This project will enable Technonet Asia to produce a manual that will attempt to cover all major aspects of industrial extension practice appropriate to the Asian environment. The manual will serve as a handy guide to small industry extension officers, managers of extension services and extension trainers.

/INDUSTRIAL EXTENSION/ - /MANUAL/ /EXTENSION SERVICES/ /SMALL-SCALE INDUSTRY/ /MEDIUM-SCALE INDUSTRY/
$97760 18 months
-TECHNONET ASIA, SINGAPORE, SG

83-0049 (SS)
MARKET IMPACT ON AMAZON COMMUNITIES (PERU)

In recent years, migrants from the highland regions of Peru have moved to the 'selva' (jungle) to build new homes and livelihoods. This has resulted in the native peoples of the Amazon being simultaneously 'pushed' and 'pulled' out of their traditional subsistence way of life and into a market economy. The purpose of this project is to examine the impact of the market on native communities and to suggest ways in which the expansion of market activity can be guided for the benefit of its indigenous peoples. Researchers will examine incomes in Amazon communities; analyze the reallocation of labour from subsistence activities to wage labour; examine changes in the consumption of self-produced vs. purchased goods; and examine the cultivation and marketing of coffee.

/MARKET ECONOMY/ - /REGIONAL DEVELOPMENT/ /INDIGENOUS POPULATION/ /TRADITIONAL TECHNOLOGY/ /ADAPTATION/ /INCOME DISTRIBUTION/ /CONSUMPTION/ /COFFEE/ /MARKETING/
$54300 15 months
-CENTRO DE INVESTIGACION Y PROMOCION AMAZONICA (CIPA), LIMA, PE

83-0050 (COMM)
JOURNAL SUPPORT - SOCIAL SCIENCE RESEARCH IN UGANDA

"Mawazo" is one of many formerly successful journals in East Africa that have suffered problems as a result of political and economic problems in the region over the past few years. A significant number of able and interested social scientists on staff at Makerere University in Uganda are committed to a serious effort to reinitiate social science research in the country by reestablishing "Mawazo". This project will supply crucial support for workshops designed to plan each issue of the journal, and in the process to permit Ugandan scholars to reengage in serious discussion about social science research issues. Specifically the project will finance the publication of four issues of "Mawazo"; finance planning workshops to discuss research papers related to the themes of upcoming issues; and assist the editorial committee of "Mawazo" to establish itself on a firm financial basis.

/SOCIAL RESEARCH/ - /PERIODICALS/
$44400 24 months
-MAKERERE UNIVERSITY, KAMPALA, UG

83-0052 (SO)
CONSUMERS' LAW (MALAYSIA) - PHASE I

Consumers in developing countries are confronted with more harmful products and less acceptable levels of service than consumers in industrialized countries. Yet they do not have the means to inform themselves about what they are consuming and what standards they should expect of suppliers. The creation of laws to control abuses in the marketplace is essential if consumers are to be protected. This project will analyze consumer law in Malaysia and propose legal reform in various areas. Specifically, the project will produce memoranda to government on the legal aspects of consumer problems and will extend information on consumer law problems to the practising bar, law teachers, and the public through the media.

/CONSUMER PROTECTION/ - /LEGISLATION/ /CONSUMERS/ /LEGAL PROTECTION/ /CONSUMER GOODS/
$68726 12 months
-CONSUMERS' ASSOCIATION OF PENANG, PENANG, MY

83-0053 (SS)
CENTRAL-CITY REVITALIZATION (ARGENTINA/URUGUAY)

In developing and developed countries alike, central-city districts are important social, economic, and cultural areas. They generally suffer from a number of socioeconomic and environmental problems such as poor housing, limited urban services, and pollution. Although the problems of central-city districts have been increasingly recognized in recent years, little thorough research has been conducted in Latin America. This project will analyze the socioeconomic and environmental problems of the central districts of three Latin American cities: Corrientes and Catamarca, in Argentina, and Montevideo, in Uruguay. Specifically, the project will examine the role of community participation in the rehabilitation of central districts and identify ways to revitalize certain functions and areas of central districts.

/URBAN RENEWAL/ - /URBAN ENVIRONMENT/ /LIVING CONDITIONS/ /QUALITY OF LIFE/ /COMMUNITY DEVELOPMENT/ /URBAN PLANNING/
$97300 12 months
-CONSEJO LATINOAMERICANO DE CIENCIAS SOCIALES (CLACSO), BUENOS AIRES, AR

83-0054 (SS)
EVALUATION OF SOCIAL PROGRAMS IN RECIFE (BRAZIL)

There are enormous social and regional income inequities in Brazil. In an attempt to alleviate social disparities, various levels of government in the countries have designed and implemented a wide range of programs in recent years to improve the standards of living of the low-income urban population. Yet these programs have often not been evaluated thoroughly, particularly in the lesser developed regions of the country where research capacity is frequently limited. In this project researchers will evaluate the public programs aimed at improving the living conditions of the poor in the city of Recife in Northeast Brazil. They will inventory and analyze the public programs and assess the degree of awareness and use of such programs by the low-income population.

/LOW INCOME/ - /LIVING CONDITIONS/ /URBAN AREAS/ /BASIC NEEDS/ /GOVERNMENT POLICY/ /PROGRAMME PLANNING/
$71200 18 months
-UNIVERSIDADE FEDERAL DE PERNAMBUCO, RECIFE, BR

83-0055 (FAD)
SECOND FORESTRY RESEARCH COURSE

This project will support the second forestry research course which, like the first, aims to familiarize forest research officers from Asian and Pacific countries with the principles and practice of forest research, emphasizing wood production rather than utilization. One of the major outcomes of the first course was the development and production of an instructional manual entitled Manual of Statistical Procedures for Forestry Research. The manual will be used in the second forestry research course to teach the participants the importance of statistics in forestry and forest products research, how to apply them, and how to use data processing techniques in statistical analysis.

/FORESTRY RESEARCH/ - /TRAINING COURSES/ /FORESTRY/ /STATISTICAL ANALYSIS/
$86200 5 months
-UNIVERSITY OF THE PHILIPPINES AT LOS BANOS (UPLB), LOS BANOS, PH

83-0056 (SS)
SQUATTER PRODUCE MARKET VENDORS (EGYPT)

As the largest and one of the fastest growing cities in the Middle East, Cairo is being stretched to the limits in its attempt to feed itself. In response to the increasing demand for fresh produce, informal and unregulated produce markets have emerged in many parts of the city. These squatter markets are so called, because they occupy locations meant for other uses. This project will study squatter market vendors in Cairo and their role in the food distribution system. Specifically, researchers will describe the location and organization of urban markets; appraise the role of squatter markets in providing employment; and make policy recommendations on the future of the markets.

/VENDORS/ - /MARKETING/ /INFORMAL SECTOR/ /FOOD SUPPLY/
$80000 15 months
-AMERICAN UNIVERSITY IN CAIRO, CAIRO, EG

83-0057 (SS)
HUMAN CAPITAL FORMATION (MALAYSIA)

A main objective of development policy in Malaysia is to restructure employment so that people from each income stratum and major language group are more equitably represented in key government and private-sector positions. To this end, policies have been adopted to provide greater access to university education. Little is known, however, of the effectiveness of these policies or their costs. This project will measure costs and benefits of university education for the various income and ethnic groups represented among the 1983 graduating class. The information will be analyzed in terms of human capital theory, whereby costs of education are regarded as an investment that yields economic returns in the form of additional income that accrues over the life of the graduate.

/UNIVERSITIES/ - /HUMAN RESOURCES/ /ACCESS TO EDUCATION/ /EMPLOYMENT OPPORTUNITIES/ /ETHNIC GROUPS/ /COST-BENEFIT ANALYSIS/
$57700 15 months
-INSTITUTE OF ADVANCED STUDIES OF THE UNIVERSITY OF MALAYA, KUALA LUMPUR, MY

83-0058 (AFNS)
GLIRICIDIA (ILCA)

Alley farming, the growing of crops between rows of frequently pruned trees, is an agroforestry system which holds great promise. The Gliricidia, a multipurpose tree that is a native of Central America and the West Indies, has been identified as an outstanding candidate for use in alley farming systems. It is widely used for agricultural shade, live fences, green manure, forage and firewood. This project will collect Gliricidia germplasm throughout its natural range, extending from northern Colombia to southern Mexico. Researchers will evaluate the various species in a number of sites in the humid and sub-humid zones of West Africa in order to incorporate suitable varieties into integrated crop/livestock alley farming systems for small farmers.

/TREES/ - /MIXED FARMING/ /PLANTING/ /HUMID ZONE/
$99600 36 months
-INTERNATIONAL LIVESTOCK CENTRE FOR AFRICA (ILCA), ADDIS ABABA, ET

83-0059 (AFNS)
NITROGEN-FIXING TREES (SIERRA LEONE)

Shifting cultivation, in which the land is cultivated for one year and kept fallow for 5 to 10 years, is the predominant form of land use in Sierra Leone. But, traditional shifting cultivation practices cannot sustain the country's rapidly increasing population, and are reducing soil fertility and crop yields. One method of alleviating problems associated with shifting cultivation is to plant fast-growing nitrogen-fixing trees (NFT's), of which -- in addition to improving soil fertility -- provide forage, firewood, building materials, and erosion control. This project will collect, propagate, and evaluate indigenous fast-growing NFT's and compare their performance with that of exotic species with a view to identifying appropriate species for incorporation into agroforestry systems in Sierra Leone.

/TREES/ - /SHIFTING CULTIVATION/ /NITROGEN/ /SOIL FERTILITY/ /SOIL EROSION/
$109200 36 months
-UNIVERSITY OF SIERRA LEONE, FREETOWN, SL

83-0060 (AFNS)
TANNINS (CHILE)

The northern arid zone of Chile previously contained scattered stands of tree species whose fruit formed the main source of tannin for the leather industry. Most of these stands were destroyed in the early years of this century, however, and local tannin production ceased in the fifties. Now, the bark of Pinus radiata, a by-product of the pine milling industry, has been shown by laboratory tests to contain 15-16 percent tannins. This project will study methods for regenerating local, tannin-producing tree species in the arid zone of the country; and determine the tannin content of the wood, bark, and fruits of selected local and exotic tree species by laboratory analysis.

/TREES/ - /FOREST RESOURCES/ /TANNING INDUSTRY/ /LEATHER/
$115830 36 months
-INSTITUTO FORESTAL, SANTIAGO, CL

83-0061 (HS)
DETERMINANTS OF INFANT FEEDING PRACTICES (GLOBAL)

Promotion of breast-feeding has become a key strategy in efforts to improve the health and well-being of young children in developing countries. Although studies have shown breast milk to be nutritionally superior to infant formula, more and more mothers in developing countries are turning away from breast-feeding to bottle-feeding. The mother's choice of feeding method is probably the result of several interrelated social, economic and biological factors. This project will review these factors using comparative data already available from Colombia, Indonesia, Kenya and Thailand. The analysis will focus on the discussion of strategies to improve infant feeding practices. Study findings will be published in book form and widely disseminated.

/FEEDING/ - /INFANTS/ /MATERNAL AND CHILD HEALTH/ /breast feeding/ /LOW INCOME/ /URBAN AREAS/ /COMPARATIVE ANALYSIS/
$34500 12 months
-POPULATION COUNCIL, NEW YORK, US

33-0062 (SS)
NEW FORMS OF FOREIGN DIRECT INVESTMENT: OECD DEVELOPMENT CENTRE (FRANCE)

Foreign direct investment (FDI) is valued by many developing countries as a means of obtaining foreign exchange, technology, and access to overseas markets. Policies towards FDI reflect a trade-off between the host country's efforts to achieve economic goals at the lowest economic and political cost to itself, and the attempt on the part of the multinational enterprise to fulfill its corporate objectives. In recent years, there has been increased recourse to "new forms" of FDI involving little or no equity participation by the foreign firm. Relatively little research has been conducted into the benefits and disadvantages of these new forms of investment. This project will examine the incidence and significance of new forms of investment in developing countries; and investigate the extent to which new forms of investment shift economic risk to the host country, while preserving or even enhancing economic returns to the foreign investor.

/FOREIGN INVESTMENTS/ - /MULTINATIONAL ENTERPRISES/ /INVESTMENT RETURNS/
$42000 24 months
-CENTRE DE DEVELOPPEMENT DE L'OCDE, PARIS, FR

83-0063 (COMM)
AIJSA - FEATURES SERVICE AND OPERATING BUDGET

The Association internationale des journalistes scientifiques africains (AIJSA) was created in Dakar, Senegal, in 1981 to help popularize science and technology in French-speaking Africa. The objectives of this project are to enable the Association to meet operating expenses, to enable the executive to meet regularly, and to establish a monthly feature service for the dissemination of scientific and technical information via the news media.

/SCIENTIFIC INFORMATION/ - /TECHNICAL INFORMATION/ /INFORMATION DISSEMINATION/ /MASS COMMUNICATION/ /JOURNALISTS/
$13285 12 months
-ASSOCIATION INTERNATIONALE DES JOURNALISTES SCIENTIFIQUES AFRICAINS (AIJSA), DAKAR, SN

83-0064 (SS)
TEACHERS' WORKSHOPS IN RESEARCH (URUGUAY) - PHASE I

Because the Uruguayan government offers limited courses to train teachers, several private organizations have emerged to fill this void. Without doubt, one of the most important of these groups is the Centre for Pedagogic Research and Experimentation (CIEP). It is estimated that in the last 10 years CIEP has trained over 6000 teachers. CIEP wants its training role to be complemented with research activities in the area of teaching and teacher training. This project will provide CIEP with the opportunity to undertake research on the problems of Uruguayan classroom teaching. CIEP will train both its own staff and a core of teachers to conduct, disseminate, and evaluate educational research.

/TEACHER TRAINING/ - /TEACHING/ /EDUCATIONAL RESEARCH/
$48500 12 months
-CENTRO DE INVESTIGACION Y EXPERIMENTACION PEDAGOGICA (CIEP), MONTEVIDEO, UY

83-0065 (SS)
WOMEN'S PARTICIPATION IN THE INFORMAL SECTOR (CHILE)

One of the outcomes of urban modernization has been the unprecedented growth of large groups of low-wage workers unprotected by labour legislation. Their jobs are commonly "informal sector". Understanding of this sector is still fragmentary. Some studies have been carried out in Asia, but in Latin America this issue is just beginning to be explored. This project will produce a detailed description of the informal sector in Santiago, Chile, as it affects women and their families. Researchers will describe the major features of the informal sector occupations held by women and the characteristics of the various job holders or seekers.

/INFORMAL SECTOR/ - /WOMEN/ /OCCUPATIONS/ /INCOME/ /EMPLOYMENT OPPORTUNITIES/ /WORKING CONDITIONS/
$37100 12 months
-CIRCULO DE ESTUDIOS DE LA MUJER (CEM), SANTIAGO, CL

83-0066 (HS)
HANDPUMP MANUAL (ASIA)

Major efforts have been made to develop a reliable handpump that can be produced, installed and maintained in developing countries at a reasonable cost. IDRC has field-tested an inexpensive handpump in Africa and Asia. The design incorporates a simple piston and foot-valve assembly made of readily available polyvinyl chloride (PVC). Field trials have shown that the pump is technically viable and has high potential for village-level operation and maintenance. However, to ensure its proper use and care, villagers need simple instructional materials. This project will develop an instruction manual for the installation, maintenance and repair of the IDRC/PVC handpump in developing countries in Asia. The manual will be designed for illiterate and semi-literate villagers and will incorporate their input.

/PUMPS/ - /MANUAL/ /MAINTENANCE AND REPAIR/
$96835 18 months
-PROGRAM FOR APPROPRIATE TECHNOLOGY IN HEALTH (PATH), SEATTLE, WASHINGTON, US

83-0067 (SS)
TECHNOLOGY, EMPLOYMENT, EDUCATION AND DEVELOPMENT (EAST AFRICA)

Investment in science and technology via the education system has become a major policy concern in East Africa. But there is a lack of fundamental information on the nature and impact of technical training, and its application in industry and agriculture. This project will explore the relationship between the supply of technologically and scientifically trained people and the utilization of their skills in the countries of East Africa. It will sponsor small exploratory research grants, strengthen individual and institutional research capability through training seminars and the encouragement of research networks, and develop a bibliographic inventory of recent research.

/TECHNICAL EDUCATION/ - /EMPLOYMENT/ /EDUCATIONAL RESEARCH/ /TECHNICAL INFORMATION/ /NON-FORMAL EDUCATION/ /EDUCATIONAL OUTPUT/ /QUALITY OF EDUCATION/
$147800 18 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

83-0068 (SS)
POPULARIZATION OF SCIENCE (ETHIOPIA)

The Science Popularization Sub-Council of the Ethiopian Science and Technology Commission wishes to improve the participation of peasants in scientific and technological progress in Ethiopia. The Council recognizes that it needs basic information about the current beliefs of the peasantry in order to change entrenched social and economic practices. Before the Council undertakes a large-scale nationwide study to collect this information, it wishes to undertake a small pilot study to test the reliability and validity of the survey instruments. Researchers in this project will gather preliminary data about the non-scientific beliefs of Ethiopians living within the vicinity of Addis Ababa.

/SCIENTIFIC CULTURE/ - /ATTITUDES/ /TRADITIONAL CULTURE/ /PEASANTS/ /TECHNOLOGICAL CHANGE/
$30000 12 months
-ETHIOPIAN SCIENCE AND TECHNOLOGY COMMISSION, ADDIS ABABA, ET

83-0069 (SS)
ECONOMIC POLICY AND AGRICULTURAL STRATEGIES (ZAIRE AND NIGERIA)

A principal objective of agricultural policy is to ensure adequate and stable supplies of food at minimum social cost. However, this goal is affected by macroeconomic policies on the exchange rate, trade, and government expenditure. Changes in such policies can have major repercussions on the production and distribution of food. Despite its significance, this linkage between macroeconomic policy and agricultural development has been under-researched. This project will investigate the relationship between trade and exchange policies and food strategies in Zaire and Nigeria. Researchers will examine protectionist measures; assess how trade and exchange rate policies affect allocations of resources; and examine how the presence of dominant export sectors (petroleum in Nigeria and minerals in Zaire) have affected production and incomes in agriculture.

/MACROECONOMICS/ - /ECONOMIC POLICY/ /AGRICULTURAL PRODUCTION/ /TRADE POLICY/
$87900 24 months
-INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE (IFPRI), WASHINGTON, D.C., US

83-0070 (SS)
SOCIAL LEARNING THROUGH PARTICIPATION IN GRASS ROOTS GROUPS (BRAZIL)

Participation links women to the development process. It can be seen as a form of social learning whereby individuals assume new roles made available to them by the changes in their society or adapt to new roles created and made necessary by the development process. In recent years, numerous studies have examined women's involvement in the labour force. Less frequent, however, have been studies looking at women's involvement in grass roots groups. This project will examine an important form of such participation, the mothers' clubs or centres of Brazil. It will assess the types of activities they undertake and their potential for facilitating social learning and individual- and community-level development through greater involvement in political and social affairs.

/SOCIAL PARTICIPATION/ - /WOMEN/ /LOW INCOME/ /WOMEN'S ORGANIZATIONS/ /SOCIAL ROLE/ /COMMUNITY DEVELOPMENT/
$55400 18 months
-REDE DE APOIO A ACAO FEMININA, SAO PAULO, BR

83-0071 (SS)
ASSESSMENT OF EDUCATIONAL CURRICULUM ON SEXUAL STEREOTYPES (ARGENTINA)

Socialization into sexual roles occurs through the family, the peer group, the school, and the mass media. Because the school has a strong socializing influence on children, it is important to consider the messages it transmits regarding sexual roles. This project will identify the attitudes and values of teachers regarding sexual roles and assess the extent to which they can be modified. Specifically, researchers will record the behaviour, perceptions, and attitudes of teachers regarding differences between the sexes; translate and adapt for use in Argentina an educational curriculum comprised of audiovisual modules dealing with sexual stereotypes and information regarding sexual differences; and apply experimentally this curriculum to the training of primary school teachers and assess its impact on the teachers' perceptions, attitudes and behaviour.

/TEACHER TRAINING/ - /TEACHERS/ /ATTITUDES/ /SOCIALIZATION/ /CURRICULUM/ /PRIMARY EDUCATION/ /MALES/ /FEMALES/ /BEHAVIOUR/
$49700 20 months
-CENTRO DE ESTUDIOS DE LA MUJER (CEM), BUENOS AIRES, AR

83-0072 (COMM)
INFORMATION EXCHANGE WITH CHILDREN IN KENYA

"Rainbow" is a children's magazine published in Kenya. Each year since 1979, the Mazingira Institute in Nairobi has collaborated with the editor of "Rainbow" on the June issue and produced a special "information package" on a specific environmental topic. This project will provide funds for the special June 1983 issue of "Rainbow". The issue will provide children with information on the kinds of diseases spread by unsafe drinking water and poor sanitation, and how these diseases can be prevented. Articles, diagrams, and a comic strip will be used. The issue will also run a contest requiring the children to answer a series of questions on water use and sanitation practices in their home districts. This information will later be used to describe preventive health measures and specific techniques for the children.

/HEALTH EDUCATION/ - /SANITATION/ /WATER SUPPLY/
$35000 15 months
-MAZINGIRA INSTITUTE, NAIROBI, KE

83-0073 (SS)
DEMOGRAPHIC ANALYSIS METHODOLOGY (CARIBBEAN)

Statistics offices in most countries have continued to make annual estimates of population and to publish registered births and deaths. However, only those in the larger, more developed countries have been able to undertake critical evaluation of their data. In most countries of the Caribbean, statistical officers need the methodological skills to undertake such analyses. The main objective of this project is to improve national capabilities for analyzing and interpreting demographic data throughout the English-speaking Caribbean by holding a six-week regional training workshop on the subject.

/DEMOGRAPHIC ANALYSIS/ - /METHODOLOGY/ /TRAINING/
$36420 2 months
-INSTITUTE OF SOCIAL AND ECONOMIC RESEARCH, ST. AUGUSTINE, TT

83-0074 (HS)
HEALTH INSURANCE DEMONSTRATION PROGRAM (KOREA)

Within the context of rapid national economic growth in the past several years, the Korean government has launched various health insurance schemes to improve the national health care system. The latest government effort is a health insurance program for people not covered by any of the previous schemes, mostly farmers and other self-employed persons. This project, to be conducted in Kangwha county, will provide important data concerning the demand for health services and the new patterns of utilization that likely have emerged as a result of the new health insurance program. The project will take advantage of data collected before the insurance program began in Kangwha county.

/HEALTH INSURANCE/ - /HEALTH SERVICES/ /EVALUATION/
$68100 12 months
-INSTITUTE OF POPULATION AND HEALTH SERVICES RESEARCH, SEOUL, KR

83-0075 (IS)
CURRENT AGRICULTURAL RESEARCH INFORMATION SYSTEM (CARIS) EGYPT

Ongoing research activities can be wasted if their results are not documented and recorded. This project will provide support to the Egyptian Documentation and Information Centre for Agriculture to enable it to collect, record and disseminate data on current agricultural research projects in collaboration with the Agricultural Research Information Service (CARIS) of the United Nations Food and Agriculture Organization (FAO). Through Egypt's participation in FAO's CARIS program, information on all aspects of ongoing agricultural research projects, workers, and institutions in Egypt will be readily available.

/INFORMATION SYSTEMS/ - /AGRICULTURAL RESEARCH/ /INFORMATION EXCHANGE/
$67810 24 months
-MINISTRY OF AGRICULTURE, CAIRO, EG

83-0076 (FAD)
ENERGY AWARDS - PHASE I

The development of IDRC's activities in energy research requires training and upgrading of staff in key institutions. The 1983/84 Energy Program budget provides for training activities to be administered by the Fellowships and Awards Division. This project will permit the Division to fund training awards in energy-related fields. Funds will be awarded to researchers who are to be or have been team members of an IDRC-supported project, and to researchers, managers, and administrative and financial personnel of research institutions, universities and organizations in developing countries.

/EDUCATIONAL GRANTS/ - /TRAINING/ /ENERGY/
$100000 12 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

83-0077 (SS)
RENEWABLE ENERGY RESEARCH INVENTORY (TURKEY)

A number of private institutions, governmental agencies and universities in Turkey are undertaking research on new and renewable sources of energy. The size and location of these efforts, however, is not known with any certainty. This has led to the isolation of the researchers, both from each other and from the manufacturing sector; the duplication of effort; and the failure to utilize limited resources effectively. The objective of this project is to produce and disseminate an inventory of research activities and research publications on selected new and renewable sources of energy. Specifically, researchers will compile an inventory of researchers and public and private institutions in Turkey currently conducting research into biogas, biomass (excluding forestry), geothermal energy, solar energy, wind energy and the production of fuel alcohol; and compile a bibliography of recent publications of Turkish research on these topics.

/ENERGY SOURCES/ - /RENEWABLE RESOURCES/ /DIRECTORY/ /RESEARCH WORKERS/ /BIBLIOGRAPHY/ /RESEARCH RESULTS/
$28800 12 months
-ENVIRONMENTAL PROBLEMS FOUNDATION OF TURKEY (TURKIYE CEVRE SORUNLARI VAKFI), ANKARA, TR

83-0078 (IS)
AGRIS (SENEGAL)

The Documentation Centre of the Ministry for Rural Development in Senegal has been chosen as the coordinating centre in West Africa to disseminate agricultural information through AGRIS (the International Information System for Agricultural Sciences and Technology). This project will provide for the distribution of Agrindex, a computer-produced index of current world literature related to agriculture, to Senegalese institutes which in turn will input to AGRIS. The publication of a retrospective and current national agricultural bibliography of Senegal and the selective dissemination of information by subject to interested institutions are also projected. The Ministry for Rural Development will sponsor a seminar to train documentalists in AGRIS methodology and will formulate a policy for cooperation and participation by Senegalese institutes in AGRIS.

/AGRIS/ - /INFORMATION SERVICES/
$21100 24 months
-MINISTERE DU DEVELOPPEMENT RURAL, DAKAR, SN

83-0079 (AFNS)
POTATOES FROM SEED (EGYPT)

Potatoes can be propagated vegetatively from seed tubers or sexually from true potato seed. Commercial production has been based on seed tubers because of ease of planting, fast and vigorous early growth, and high yield potential. However, commercial potato production in developing countries has been constrained by high cost of imported seed tubers and the difficulties associated with the storage and handling of large quantities of seed tubers under hot humid conditions. Scientists at the International Potato Centre in Lima, Peru, have focused on improving the quantity and quality of potato production from true seed. This project will support them in their efforts to develop and test varieties of true potato seed suitable for the cropping systems of small farmers in Egypt, i.e., varieties that give high yields, mature early, are resistant to important diseases and pests, and tolerate high temperature and drought.

/POTATOES/ - /SEEDS/ /GENETIC IMPROVEMENT/ /HYBRIDIZATION/ /PLANTING/
$204400 36 months
-CENTRO INTERNACIONAL DE LA PAPA (CIP), LIMA, PE

83-0080 (FAD)
SCHOOL MAPPING AND MICROPLANNING IN THE CARIBBEAN REGION

In 1981, the Ministry of Education requested the assistance of the International Institute of Educational Planning (I.I.E.P.) in the introduction of school mapping in Jamaica. An I.I.E.P. specialist recommended a training course in school mapping for officers from the Ministry and neighbouring Caribbean countries. This project will provide the funds for the training course. The course will endeavor, in the case of Jamaica, to assist officers in the Ministry of Education in the preparation of a primary school map and the reorganization of the secondary school map; and in the case of other countries, to train a team of planners/researchers in the techniques of school mapping.

/EDUCATIONAL PLANNING/ - /MAPPING/ /TRAINING COURSES/
$65490 1 months
-MINISTRY OF EDUCATION, KINGSTON, JM
-INSTITUT INTERNATIONAL DE PLANIFICATION DE L'EDUCATION (IIPE), PARIS, FR
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, ONTARIO, CA

83-0081 (FAD)
RESEARCH FELLOWSHIP (BUTROS)

This project will provide funds for a Research Fellowship for Dr. Albert Butros, Director General of the Royal Society of Jordan. The award will facilitate a closer working relationship between IDRC and the Royal Society of Jordan, and between other organizations, scientific and educational, in Jordan and Canada.

/RESEARCH FELLOWSHIPS/ - /SCIENTIFIC COOPERATION/
$97500 12 months
-ROYAL SCIENTIFIC SOCIETY, AMMAN, JO

83-0082 (IS)
CARISPLAN - GRENADA

Grenada participates in CARISPLAN, the Caribbean component of the socioeconomic information system known as INFOPLAN. This project will strengthen the documentation centre of the Ministry of Planning, Development and Training of Grenada, established to provide information for the socioeconomic planning needs of Grenada's policymakers and planners. The project will enable the documentation centre to capture, store, and disseminate current socioeconomic information and to participate effectively as the national focal point for CARISPLAN.

/CARISPLAN/ - /INFORMATION SERVICES/ /ECONOMIC PLANNING/ /SOCIAL PLANNING/
$52900 24 months
-MINISTRY OF PLANNING, DEVELOPMENT AND TRAINING, ST.GEORGE'S, GD

83-0083 (IS)
CARISPLAN - SAINT VINCENT AND THE GRENADINES

Saint Vincent and the Grenadines participates in CARISPLAN, the Caribbean component of the socioeconomic information system known as INFOPLAN. This project will strengthen the documentation centre of the country's Ministry of Finance, Planning and Development. The centre was established to provide information services, emphasizing the socioeconomic planning sector, to officials of the government service. The project will enable the centre to capture, store, and disseminate current socioeconomic information and to participate effectively as the national focal point for CARISPLAN.

/CARISPLAN/ - /INFORMATION SERVICES/ /SOCIAL PLANNING/ /ECONOMIC PLANNING/
$59630 24 months
-MINISTRY OF FINANCE, PLANNING AND DEVELOPMENT, KINGSTON, VC

83-0084 (HS)
DENTAL RESEARCH (KENYA)

Dental disease is becoming an increasingly serious public health problem in developing countries such as Kenya. It is often assumed that the major contributing factor to the rise in the occurrence of tooth decay is the increased availability and consumption of dietary sugar. In Kenya, the annual consumption of sugar has increased approximately threefold since independence in 1963. It is therefore pertinent to inquire whether there has been a parallel increase in tooth decay, especially among children. This project will attempt to establish an association between sugar consumption and the incidence of tooth decay in Kenyan children. Researchers will attempt to define a threshold level of per capita sugar consumption, below which such an association does not occur.

/DENTISTRY/ - /SUGAR/ /FOOD CONSUMPTION/ /CHILDREN/ /DISEASE CONTROL/
$55600   36 months
-KENYA MEDICAL RESEARCH INSTITUTE, NAIROBI, KE

83-0085 (HS)
NUTRITIONAL RECOVERY (ARGENTINA)

Malnutrition is often an underlying cause of many diseases for which children are admitted to hospitals. However, in most cases it is not diagnosed as such and therefore not treated, resulting in the deterioration of the nutritional status of the child who either dies or later has to be readmitted to the hospital. Studies carried out in Argentina have shown a significant relationship between nutritional states at the time of discharge from hospital and the frequency of readmissions. Information on the time it takes a malnourished child to recover is not available. In this project, the Ministry of Health, through its Hospital Nacional Posadas, and the University of Buenos Aires will estimate the time necessary for nutritional recovery in children with different grades of malnutrition. Researchers will determine and compare the cost effectiveness of two different diets.

/MALNUTRITION/ - /DIET/ /EVALUATION/ /COST ANALYSIS/ /NUTRITIVE VALUE/
/HEALTH SERVICES/
$47930   15 months
-Fundacion de Estudios de Enfermedades Endemicas, BUENOS AIRES, AR

83-0086 (HS)
HEALTH OF WORKING MOTHERS (HONG KONG)

In the 1970s, a biosocial survey conducted in Hong Kong revealed that nearly one-third of Chinese adults living in urban areas suffered from stress, and that the symptoms were particularly prevalent among women. Stress-related problems have been found to be particularly acute among working mothers living in Hong Kong's "New Towns", industrial areas recently developed to accommodate a rapidly expanding labour force. This project will test the hypothesis that working mothers in Shatin New Town suffer more frequently from ill health than non-working mothers, and that their children have higher mortality and morbidity rates and grow and develop more slowly than children of non-working mothers. Epidemiological data relating to the health and maternity experience of working and non-working mothers will be collected, as will information on the health, growth and development of their children.

/MATERNAL AND CHILD HEALTH/ - /FEMALE MANPOWER/ /OCCUPATIONAL DISEASES/
/CHILD DEVELOPMENT/ /HEALTH SERVICES/ /INDUSTRIALIZATION/
$29240   12 months
-THE CHINESE UNIVERSITY OF HONG KONG, SHATIN, HK

83-0087 (HS)
CONFERENCE ON DENGUE/DENGUE HEMORRHAGIC FEVER (DF/DHF) (SOUTHEAST ASIA)

Insect-borne diseases continue to pose a major threat to the lives of millions of people in developing countries. One important disease is dengue fever. The most serious complication is dengue hemorrhagic fever (DHF) which is often fatal. Several countries have expressed an interest in carrying out further research into DHF, and it would be ideal for researchers from different countries to meet to discuss the most appropriate avenues for this type of research. This project will fund a workshop on DHF in Kuala Lumpur from September 1-3, 1983. Aspects of DHF to be covered will include the epidemiology of the disease, the role of vectors and vector-control; diagnosis; immunology and pathogenesis; biochemical and genetic analysis of dengue viruses; vaccines, and the treatment of DHF.

/INFECTIOUS DISEASES/ - /EPIDEMIOLOGY/ /DISEASE VECTORS/ /DIAGNOSIS/ /DISEASE CONTROL/ /DISEASE TRANSMISSION/ /VIRUSES/ /VACCINES/
$45030 9 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), SINGAPORE, SG

83-0088 (COMM SS)
JOURNAL SUPPORT - ZIMBABWE

The severe economic crisis in the Eastern and Southern African region has threatened most social science journals, and forced almost all to cease publication. The Social Sciences and Communications Divisions of IDRC have been active in the region in recent years trying to identify ways the Centre could provide support to struggling social science journals. Without such journals, the basis for a viable research community is very difficult to sustain. This project will provide support for the Zimbabwe Journal on Social Change and Development through the provision of equipment, staff, facilities, and production costs for one year. The Journal has played an important role in Zimbabwe by taking discussion of social and economic issues to a popular audience. The firm establishment of the Journal will provide a unique and valuable forum for future discussion of important social and economic issues in Zimbabwe.

/PERIODICALS/ - /SOCIAL RESEARCH/ /economic and social development/
$22500 12 months
-JOURNAL ON SOCIAL CHANGE AND DEVELOPMENT, HARARE, ZW

83-0089 (HS)
PESTICIDE POISONING (SOUTHEAST ASIA)

Pesticides are used extensively in agriculture all over the world, and increasingly so in many developing countries. As the world pesticide market has grown, so has the incidence of pesticide poisoning and pesticide-related deaths. The World Health Organization (WHO) estimated in 1972 that over 500 000 cases of accidental pesticide poisonings occur annually, approximately one-half of them in developing countries. This project will examine the problem of pesticide poisoning in four Southeast Asian countries: Thailand, Indonesia, Malaysia and Sri Lanka. Researchers will assess the magnitude and severity of the problem, examine the legislation regarding pesticide use in each country, and make recommendations for improvements.

/PESTICIDES/ - /POISONING/ /LEGAL ASPECTS/
$228800 18 months
-ASIAN ASSOCIATION OF OCCUPATIONAL HEALTH, SINGAPORE, SG

83-0090 (SS)
FERTILITY AMONG THE URBAN POOR (PERU)

Research on social, economic and cultural determinants of high fertility and low rates of contraceptive adoption is now a priority for the government of Peru. The government is seeking to coordinate research and generate new knowledge on ways to reinforce the current family planning program. One of their major priorities is to carry out further research on the social and economic determinants of fertility in low-income urban settlements with a high proportion of rural-urban migrants. This project will study factors determining household composition, fertility and family planning practices in Lima. The project will provide new knowledge on the determinants of fertility in this population, and on the role of family planning services and community institutions in mediating changing patterns of contraceptive adoption.

/FERTILITY/ - /LOW INCOME/ /URBAN AREAS/ /MIGRANTS/ /MOTIVATIONS/ /ATTITUDES/ /FAMILY PLANNING/
$94400 16 months
-INSTITUTO ANDINO DE ESTUDIOS EN POBLACION Y DESARROLLO (INANDEP), LIMA, PE

83-0091 (HS)
COMMUNITY ORGANIZATIONS/PHC (HONDURAS)

It is generally accepted that primary health care will be the key to achieving an acceptable level of health throughout the world in the future. Research is needed to answer questions related to many primary health care issues, one of the most critical being community participation. In 1972, the Honduran Ministry of Health introduced a program to extend its primary health services through community participation. This project will investigate the role of such participation in the delivery of health care, particularly maternal and child care services, in Las Crucitas, a marginal area in the city of Tegucigalpa. Research will focus on the following: motivation, promotion and coordination among health centre personnel, community volunteers and community organizations; incentives for community volunteer health workers; and relationships among community demand, services and support provided by the community.

/MATERNAL AND CHILD HEALTH/ - /HEALTH SERVICES/ /COMMUNITY DEVELOPMENT/ /SOCIAL PARTICIPATION/ /COMMUNITY RELATIONS/ /VOLUNTARY ORGANIZATIONS/
$64950 12 months
-CENTRO DE ESTUDIOS Y PROMOCION DEL DESARROLLO (CEPROD), TEGUCIGALPA, HN

83-0092 (SS)
TEACHER WORKSHOPS: THE WORLD OF THE CHILD (ARGENTINA)

The question of what characterizes an effective teacher and how such a teacher can be efficiently trained continues to puzzle researchers. In Latin America, teacher training efforts are often highly academic and unrelated to the needs of the teacher, the pupil, or the community. This project will become part of a network of IDRC-funded projects to develop, within participative workshops, new teacher training methods to improve teaching skills and the teachers' awareness of their developmental role in classroom and community. Research will focus on pupil perceptions of the school and their understanding of the world around them. It is hoped that through this research teachers will be assisted in altering their classroom roles and, ultimately, their teaching methods.

/TEACHER TRAINING/ - /PARTICIPATORY RESEARCH/ /TEACHERS/ /SOCIAL ROLE/ /TEACHING METHODS/ /CURRICULUM/
$118445 24 months
-FACULTAD LATINOAMERICANA DE CIENCIAS SOCIALES (FLACSO), BUENOS AIRES, AR

83-0093 (AFNS)
RURAL UNIVERSITY (COLOMBIA) - PHASE II

FUNDAEC (the Foundation for the Application and Teaching of Sciences) believes that what rural areas need is not minimum learning, but the application of higher education and scientific insight, and the opportunity to collaborate with experts from their own area committed to their development. FUNDAEC has achieved a high degree of success both in rural education and in cultivation systems research. In Colombia, FUNDAEC has fostered the training of young farmers, grammar school teachers and agronomists through a "rural university". Phase II of this project will continue work begun in phase I, specifically, the testing of improved crop and animal production subsystems, the agronomic and economic evaluation of annual and perennial cropping systems, and the development of village-level tutorial extension programs.

/RURAL DEVELOPMENT/ - /AGRICULTURAL EXTENSION/ /CULTIVATION SYSTEMS/
/NON-FORMAL EDUCATION/ /TECHNICAL EDUCATION/
$380100   36 months
-FUNDACION PARA LA APLICACION Y LA ENSENANZA DE LAS CIENCIAS (FUNDAEC),
CALI, CO

83-0094 (SS)
PROSPECTS FOR URBANIZATION (NEPAL) - PHASE I

By any index, Nepal is one of the world's least developed countries. Below-subsistence conditions in the mountain and hill areas for many years have forced people to move to the Terai plains of Southern Nepal. This migration has been so heavy that all agricultural land is now being used and the forests have been severely depleted. As a result, an urgent priority is to prevent migration to the Terai. There are not yet sufficient towns in the hills and mountains to stem the exodus to the Terai. The roles of the existing small towns need to be examined. This project will assess the feasibility of analyzing the resource and employment characteristics of different-sized towns along the Gandaki Growth Axis, as well as their linkages to the rural areas, with a view to stabilizing populations in the mountain and hill regions. The study will be expanded in Phase II to 13 towns.

/URBANIZATION/ - /SMALL TOWNS/ /INTERNAL MIGRATIONS/ /DEVELOPMENT STRATEGY/
$16300   6 months
-NEW ERA, KATHMANDU, NP

83-0095 (SS)
INTERNATIONAL MIGRATION (BRAZIL)

The state of Piaui in Northeast Brazil has long been an exporter of human resources but there has been evidence of increased rural urban migration within Piaui over the past two decades. This accelerated urbanization may be due to the push of rural poverty rather than the pull of urban jobs, but there has been little research conducted to date to substantiate this hypothesis. This project will endeavor to identify the trends and causes of migratory flows in Piaui state for the period 1960-1980, to provide a basis for policy formulation. It will also undertake an evaluation government policies in Piaui designed to create employment, return workers to their areas of origin, and improve the living conditions of rural and urban populations.

/INTERNAL MIGRATIONS/ - /RURAL MIGRATIONS/ /MIGRANTS/ /LAND TENURE/
/AGRICULTURAL PROJECTS/ /RURAL DEVELOPMENT/ /policy making/
$87000   19 months
-FUNDACAO CENTRO DE PESQUISAS ECONOMICAS E SOCIAIS DO PIAUI (CEPRO), PIAUI,
BR

83-0096 (SS)
COFFEE PRODUCTION AND MARKETING (TANZANIA)

The grave economic crisis in Tanzania has been marked by the growth of a massive gap between import requirements and export earnings. A contributing factor has been declining production of agricultural crops for export, a trend the government of Tanzania is intent on reversing. This project will identify the constraints and problems facing the coffee industry in Tanzania, and suggest policy directions for improvement. The project will analyze coffee smallholders in six regions; survey the problems of estate production in selected areas; and probe Tanzania's role in the international coffee market to suggest prospects for future coffee exports if policy changes can increase domestic production.

/COFFEE/ - /CROP YIELD/ /MARKETING/ /PRICING/ /AGRICULTURAL POLICY/
$33000 18 months
-ECONOMIC RESEARCH BUREAU, DAR ES SALAAM, TZ

83-0097 (AFNS)
DESERT FARMING SYSTEMS (EGYPT) - PHASE II

Most desert soils in Egypt lack clay and silt and contain a high proportion of coarse sand. Phase I of this project sought to develop cultivation methods and systems suitable for these light textured desert soils and that could be undertaken by small-holders and cooperatives. Research focused on water management, soil regeneration and fertility, drought-tolerant fodder crops, animal production, and different trees for use as windbreaks and as sources of fuel, food, and fodder. The yields obtained in phase I were very low, with the major limiting factors yet to be identified. Phase II will continue the work, placing greater emphasis on crop management, tillage and planting methods and weed control.

/ARID ZONE/ - /FARMING SYSTEMS/ /WATER MANAGEMENT/ /SHELTERBELT/ /CROP YIELD/ /CULTIVATION PRACTICES/ /ANIMAL HUSBANDRY/
$412744 24 months
-AMERICAN UNIVERSITY IN CAIRO, CAIRO, EG

83-0098 (HS)
ANEMIA (TUNISIA)

Anemia, which is caused by a lack of iron and folic acid in the body, is a serious public health problem in many countries. Young children and pregnant and nursing women face the highest risk. In some developing countries as many as 60 percent of children may suffer from the disease. Studies in Tunisia have shown that poor nutrition during pregnancy, frequent pregnancies among young women, a decline in breast-feeding, gastrointestinal disease and poor hygiene all contribute to anemia. This study will determine the incidence of anemia among women at different stages of their pregnancies and in children up to age five. The women will be given iron and folic acid supplements and the effect of these on their newborns will be evaluated. The data will come from both urban and rural areas in Tunisia and should be useful in planning better programs to combat the problem.

/DEFICIENCY DISEASES/ - /MATERNAL AND CHILD HEALTH/
$84590 30 months
-INSTITUT NATIONAL DE SANTE DE L'ENFANCE, TUNIS, TN

83-0099 (SS)
MACROECONOMIC ANALYSIS PROGRAM (EASTERN AND SOUTHERN AFRICA)

During the seventies, the countries of sub-Saharan Africa experienced major macroeconomic problems: accelerated inflation, major balance of payments disequilibria, fiscal and debt crises, and reduced growth. These macroeconomic problems and the associated need for effective stabilization and adjustment programs now dominate all other economic policy issues. Increased realization on the part of sub-Saharan African governments of the need for more research into macroeconomic issues has been marked by growing demands for IDRC support from government agencies, universities, and research institutions. In response to these requests, this project will establish a macroeconomic analysis program to support research on macroeconomic issues affecting the economic stability of countries in the region, and to enhance the capacity of local scholars and institutions to conduct high level research in this field.

/MACROECONOMICS/ - /ECONOMIC POLICY/ /STABILIZATION/ /RESEARCH PROJECTS/ /ORGANIZATION OF RESEARCH/
$302000 18 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), NAIROBI, KE

83-0100 (SS)
HOUSEHOLD-DEMOGRAPHIC RESEARCH: COMPARATIVE ANALYSIS (GLOBAL)

Over the past decade the impact of development programs and policies on demographic behaviour in developing countries has received considerable attention. IDRC has supported research on the response of rural households to social and economic change, focusing on the behaviour of individual family members. Although these individual studies have made an important contribution, a number of fundamental questions remain unanswered. This project will provide funds to hold workshops in which participants will analyze, compare and synthesize the results of several IDRC-supported projects on household demographic behaviour. It will permit more in-depth analysis of research already completed in Latin America, Asia and Africa, and make possible the preparation of a document incorporating and comparing various regional perspectives.

/DEMOGRAPHY/ - /SOCIAL CHANGE/ /MODERNIZATION/ /FAMILY/ /RURAL/ /HOUSEHOLD/ /BEHAVIOUR/ /ADAPTATION TO CHANGE/ /SOCIAL RESEARCH/ /DATA ANALYSIS/ /COMPARATIVE ANALYSIS/
$92500 24 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

83-0101 (AFNS)
RURAL FOOD PATTERNS (ZIMBABWE)

Many of Zimbabwe's rural children, particularly the youngest, are malnourished. However, there is little information about the quantity and quality of food available and consumed in rural areas and how such factors relate to levels of the nutrition-related disorders, kwashiorkor and marasmus. Information is required to enable the planning of community-based action programs. This project will undertake a survey of child nutrition in rural Zimbabwe as a basis for future nutrition research and rural action programs. Researchers will survey existing food patterns and the prevalence of nutrition-related disorders in children under five in selected rural areas. They will also devise action programs aimed at improving nutritional and agricultural practices.

/FOOD CONSUMPTION/ - /FOOD SUPPLY/ /MALNUTRITION/ /CHILDREN/ /DEFICIENCY DISEASES/ /RURAL AREAS/ /COMMUNITY RELATIONS/
$90400 12 months
-SILVEIRA HOUSE, HARARE, ZW

83-0102 (HS)
BREAST-FEEDING/CHILD SURVIVAL (INDONESIA/PHILIPPINES)

Breast-feeding is of particular importance for the health of mothers and young children in developing countries; however a trend towards a decline in levels of breast-feeding has become apparent in many developing countries in recent years, resulting partially from bottle-feeding promotion activities. The objective of this project is to develop popular education materials for women in lower socioeconomic groups in Indonesia and the Philippines, aimed at improving their knowledge, attitudes and behaviour with regard to breast-feeding and related child survival practices. The project will identify and use established information and dissemination networks and commercial retail sales outlets for the distribution of popular education materials; and conduct a sample marketing study to determine whether it is economically feasible to market selected popular education materials developed in the project.

/breast feeding/ - /MATERNAL AND CHILD HEALTH/ /HEALTH EDUCATION/
/TEACHING AIDS/ /INFORMATION DISSEMINATION/
$184620 24 months
-YAYASAN KUSUMA BUANA (YKB), JAKARTA, ID
-KABALIKAT NG PAMILYANO PILIPINO, MAKATI, PH

83-0103 (HS)
NUTRITION EDUCATION/WEANLINGS (CFNI)

Nutritional deficiencies associated with the weaning period are well known in most developing countries. Education and training form a major component of the strategy to improve weaning practices. However, the actual messages to be developed, the most effective methods of delivering educational messages to mothers, and the most appropriate communications media, have not yet been defined. Research is required both to understand current weaning practices better and to develop and evaluate effective educational materials. This project will update information on current weaning practices in St. Kitts-Nevis and Grenada, and using this information, develop a teaching package for teachers of mothers and child-minders. Researchers will also develop and test methods of preparing weaning foods.

/breast feeding/ - /CHILD REARING/ /MALNUTRITION/ /HEALTH EDUCATION/
/TEACHING AIDS/ /FOOD PREPARATION/
$95930 30 months
-PANAMERICAN HEALTH ORGANIZATION (PAHO), WASHINGTON, US

83-0104 (HS)
HIGH RISK PREGNANCY (EGYPT)

In most rural areas of the developing world, health services before and after birth are virtually nonexistent. Where services are available, they are often provided in overcrowded clinics, where high-risk pregnancies are frequently missed. In order to plan rationally for improving the delivery of maternal and child health services, it is essential that accurate and reliable baseline data be collected. In Egypt, data on perinatal and maternal death and illness, and on risk factors contributing to that death and illness, is very scarce. The purpose of this project is to develop a detailed data base on the health problems of pregnant women in an area of rural Egypt, and to study risk factors associated with pregnancy. From the information collected, recommendations aimed at improving health services, so as to improve pregnancy outcome, will be made.

/PREGNANCY/ - /MATERNAL AND CHILD HEALTH/ /INFANT MORTALITY/
/EPIDEMIOLOGY/ /HEALTH SERVICES/
$140950 30 months
-UNIVERSITY OF ALEXANDRIA, ALEXANDRIA, EG

83-0105 (AFNS)
PALM OIL PROCESSING (SIERRA LEONE)

The average Sierra Leonean depends heavily on palm oil as part of his/her daily meal. There are many wild and cultivated plantations of oil palm that produce large quantities of the fruit. However, the traditional method of processing the fruit is unhygienic, tedious and inefficient. Palm oil presses using screw threads have been made in Sierra Leone but have been sold on a very limited scale without systematic evaluation of their performance. This project will develop and test palm oil extractors suitable for use in small farming communities and for manufacture in Sierra Leone. Specifically, researchers will survey traditional palm oil production processes; test and improve two existing prototypes of palm oil extraction machines developed in Sierra Leone; design, construct, and field test alternate models; and disseminate the results.

/PALM OIL/ - /post-harvest systems/ /FOOD PROCESSING/ /AGRICULTURAL MACHINERY/ /ENGINEERING DESIGN/
$157700 36 months
-UNIVERSITY OF SIERRA LEONE, FREETOWN, SL

83-0106 (AFNS)
COWPEA STORAGE (SIERRA LEONE) - PHASE II

In Sierra Leone, very little cowpea is grown and stored by farmers because they feel losses due to insects and molds are too high. Adequate storage systems are therefore required to encourage production. The general objective of phase I of this project was to develop systems for storing cowpeas in the wet, humid zone of West Africa. The first phase of work surveyed existing storage systems in West Africa and produced results on natural pesticides which need to be tested. The second phase of work will consist of field tests and comprehensive on-farm trials undertaken to assess losses in typical storage systems identified in phase I as being used in Sierra Leone. Researchers will design and test improved storage systems and evaluate the use of natural pesticides, such as cloves, within these systems

/COWPEAS/ - /PEST CONTROL/ /STORAGE/ /post-harvest systems/
$113650 36 months
-UNIVERSITY OF SIERRA LEONE, FREETOWN, SL

83-0107 (AFNS)
SOLAR CROP DRYERS (SIERRA LEONE) - PHASE II

The current national thrust in agriculture in Sierra Leone is to attain self-sufficiency in rice production. One mean to increase the amount of available rice for consumption is to improve drying and storage practices. An improved drying system could encourage earlier harvesting, thus reducing pre-harvest losses, and a reduction in drying losses would increase the quantity and quality of rice available for the market. In phase I of this project, solar crop dryers were built and tested. In phase II, researchers will test in the laboratory the Prototype III developed in phase I under no-load and rice-loaded conditions; make any required modifications and prepare final drawings of the dryer; construct Prototype III dryer models of various local and other materials; test the dryers under typical farm conditions to assess their acceptability by farmers; and train extension workers in the building and operation of solar dryers.

/DRYING/ - /SOLAR ENERGY/ /ENGINEERING DESIGN/ /RICE/ /AGRICULTURAL EXTENSION/ /post-harvest systems/
$174000 36 months
-UNIVERSITY OF SIERRA LEONE, FREETOWN, SL
-MINISTRY OF AGRICULTURE AND FORESTRY, FREETOWN, SL

83-0108 (HS)
PERINATAL AND INFANT HEALTH (COSTA RICA)

Costa Rica has registered remarkable improvements in the health status of its people over the past few decades. However, over the past few years, infant mortality in Costa Rica has begun to rise again. Along with the increase in infant mortality, significant increases in the incidence of both intrauterine growth retardation and preterm deliveries have been noted. It is important to attain a better understanding of the social and biological determinants of child health in Costa Rica. This project will monitor the occurrence of high-risk pregnancy, preterm delivery, fetal growth retardation, and premature infant death in the Puriscal area of Costa Rica. Researchers will investigate the factors associated with poor pregnancy outcome; and assess the influence of preterm delivery and low birth weight on infant growth and development.

/MATERNAL AND CHILD HEALTH/ - /PREGNANCY/ /INFANT MORTALITY/ /CHILD REARING/
$406740 36 months
-UNIVERSIDAD DE COSTA RICA, SAN JOSE, CR

83-0109 (AFNS)
POST-PRODUCTION SYSTEMS (SADCC)

The Southern Africa Development Coordination Conference (SADCC) took place in Lusaka in April 1980 at a Heads of State meeting of Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe. SADCC has recognized the importance of establishing a regional food security program. With the support of IDRC, it is therefore establishing a Post-production and Food Industry Advisory Unit (PFIAU) which will be responsible for advising member countries of the research, technological development, training, and information necessary to ensure that existing and future post-production, food processing, and distribution systems operate efficiently and effectively.

/post-harvest systems/ - /FOOD PROCESSING/ /FOOD PRESERVATION/ /REGIONAL COOPERATION/
$589400 60 months
-MINISTRY OF AGRICULTURE, HARARE, ZW

83-0110 (AFNS)
BY-PRODUCTS (SUDAN) - PHASE II

Sudan is seeking additional inexpensive sources of animal feedstuffs in order to increase the level and quality of its meat production. Phase I of this project investigated the use of local by-products - sorghum stalks, sugarcane bagasse, molasses, and groundnut hulls - in animal feed rations. Phase II will apply the results of by-product research obtained in phase I to an animal production system in the Khartoum area of Sudan. The project will examine the different beef production systems in the Khartoum area; and endeavour to improve the traditional beef feedlot industry by formulating and testing fattening rations in accordance with feed composition, animal requirements, and production objectives. The close linkage with feed lot operators will allow a realistic evaluation of the performance of low cost, by-product-based, feeding systems.

/FEED/ - /BY-PRODUCTS/ /AGRICULTURAL WASTES/ /CATTLE/ /ANIMAL PRODUCTION/ /ANIMAL NUTRITION/ /COST ANALYSIS/
$239100 36 months
-INSTITUTE OF ANIMAL PRODUCTION, UNIVERSITY OF KHARTOUM, KHARTOUM, SD

83-0111 (AFNS)
DAIRY PRODUCTION SYSTEMS (SUDAN)

The focus of this project is on dairy production in the large irrigated Rahad region in the Sudan. The general objective of the project is to develop improved feeding systems for dairy cattle in the irrigated Rahad region. Specifically, the project will identify high forage species for production during the cooler irrigated months and during the hot months, and evaluate their productivity and nutritive value; develop suitable crop husbandry practices for these forages; and introduce and test new varieties of existing or introduced forage species.

/FORAGE CROPS/ - /FEED/ /GENETIC IMPROVEMENT/ /DAIRY INDUSTRY/ /ANIMAL NUTRITION/ /ANIMAL HUSBANDRY/ /AGRICULTURAL ECONOMICS/
$255600 36 months
-UNIVERSITY OF GIZERA, WAD MEDANI, SD

83-0112 (HS)
IRON-DEFICIENCY ANEMIA (ARGENTINA)

Anemia is one of the most frequently observed diseases in the world today. The cause of anemia is a lack of iron and folic acid in the body. Widespread malnutrition in developing countries accounts for the high prevalence of iron-deficiency anemia in these countries. Studies undertaken in Argentina have shown that iron-deficiency anemia is widespread, however, there is very little data available on the prevalence of anemia in children. This project will enable researchers in Argentina to investigate the prevalence of anemia in children in that country, as well as to study factors contributing to the development of anemia. Specifically, researchers will determine the incidence of anemia in populations of Argentinian children aged 9 to 24 months in Greater Buenos Aires and in Misiones province; and evaluate the dietary patterns of the study population. Recommendations will be made to alleviate the nutritional problems observed.

/DEFICIENCY DISEASES/ - /MATERNAL AND CHILD HEALTH/ /MALNUTRITION/
$108200 19 months
-CENTRO DE ESTUDIOS SOBRE NUTRICION INFANTIL (CESNI), BUENOS AIRES, AR

83-0113 (SS)
ASEAN AND SHIPPING CONFERENCES (SINGAPORE)

Shipping is an important element in the economy of the Association of Southeast Asian Nations (ASEAN). Only recently, however, have associations been formed to represent the interests of shippers and have ASEAN governments become concerned with shipping policies. Traditionally shipping conferences have controlled shipping in the region and have been able to concentrate and maintain economic power to such an extent that they have been able to dictate terms to ASEAN shippers. This project will focus on the role and practices of shipping conferences operating from and to ASEAN ports with the objective of identifying and recommending policies and regulations that would best serve the interests of both governments and shippers.

/SEA TRANSPORT/ - /TRADE DEVELOPMENT/ /DECISION MAKING/ /SHIPS/ /REGULATIONS/ /FREIGHT/ /PRICES/ /CARGO/
$92000 24 months
-INSTITUTE OF SOUTHEAST ASIAN STUDIES (ISEAS), SINGAPORE, SG

83-0114 (AFNS SPA)
SMALL-SCALE ENERGY SYSTEM (PHILIPPINES)

As additional supplies of wood become available from the newly established tree farms in the Philippines, a widespread use of charcoal is planned. This project aims to develop a village-scale energy system involving the burning of wood and agricultural residues, the improvement of charcoal production, and the recovery of by-products such as wood tar, acetic-acid, and methanol. Members of the community will be trained to operate and maintain the energy system. The project will include an economic feasibility study and an import evaluation component.

/RENEWABLE ENERGY SOURCES/ - /FUELWOOD/ /CHARCOAL/ /BIOGAS/ /AGRICULTURAL WASTES/ /WASTE UTILIZATION/ /THERMAL POWER PLANTS/ /ELECTRICITY/
$340000 36 months
-FOREST PRODUCTS RESEARCH AND DEVELOPMENT INSTITUTE (FPRDI), LOS BANOS, PH

83-0115 (SS)
PARTICIPATORY RESEARCH, EVALUATION AND TRAINING (INDIA)

Participatory programs represent a new and potentially powerful way to strengthen non-formal education as a tool for development. This project will explore in depth the theoretical and practical elements of what is known as participatory research, evaluation and training. Specifically, the project will document examples of participatory research, as it has been applied in community development projects, socioeconomic surveys, adult education programmes, etc. in India; analyze the nature of the participation that has occurred during these efforts; and disseminate the findings to other professionals and grass roots activists.

/PARTICIPATORY RESEARCH/ - /NON-FORMAL EDUCATION/ /METHODOLOGY/
$59700 21 months
-INTERNATIONAL COUNCIL FOR ADULT EDUCATION, TORONTO, ONTARIO, CA

83-0116 (SS)
IN-DEPTH FERTILITY SURVEY (CHINA)

Little is known about China's population trends and, in particular, fertility regulation at the family and individual levels. To help remedy this situation, this project will gather information on family planning and other population characteristics in three provinces. Researchers will be trained in research design, survey practices, and data processing and analysis both with a view to strengthening national research capability and enabling China to participate in the World Fertility Survey and to benefit from the international comparability of data.

/FERTILITY/ - /SURVEYS/ /METHODOLOGY/ /STUDY TOURS/ /FAMILY PLANNING/ /INFANT MORTALITY/
$200000 48 months
-INTERNATIONAL STATISTICAL INSTITUTE (ISI), LONDON, GB

83-0117 (SS)
LEADING COMMUNITIES (PERU)

Peru has one of the largest rural populations in Latin America. During the last 15-20 years, some rural communities have achieved dramatic improvements in their standard of living, while at the same time maintaining their cultural identity. This project will attempt to shed some light on the factors responsible for this phenomenon and to assess the degree to which their experience can be reproduced in other communities. Researchers will collect information on Peruvian peasant communities; formulate a typology of peasant communities in five regions in order to identify regional variations; and identify, with reference to four community-level case studies, elements of community organization and economic activity which contribute to development.
$86500 24 months
-INSTITUTO DE ESTUDIOS PERUANOS (IEP), LIMA, PE

83-0118 (IS)
APICULTURAL SOURCE MATERIALS - FRENCH AND SPANISH TRANSLATIONS

The International Bee Research Association (IBRA), with headquarters in the United Kingdom, is a non-profit organization which publishes manuals, bibliographies, periodicals, and an abstract journal for scientists and beekeepers. IDRC supported the publication of IBRA's Apicultural Source Materials, a series of pamphlets dealing with subjects relevant to beekeeping in the Third World. This project will enable IBRA to translate the series into French and Spanish in order to reach more people in developing countries.

/APICULTURE/ - /INFORMATION DISSEMINATION/
$32600 12 months
-INTERNATIONAL BEE RESEARCH ASSOCIATION (IBRA), BUCKS, ENGLAND, GB

83-0119 (AFNS)
AMAZONIAN PRODUCTION SYSTEMS (PERU) - PHASE II

The Amazonian region of Peru is a new colonization area and technologies appropriate to its particular conditions are required. Phase I of this project introduced pasture legumes and grasses, developed feed conservation schemes, designed an animal disease prevention program, and developed and tested improved dairy-beef production systems. Phase II of the project will provide needed information on ecologically sound, land use alternatives for the region. The two production models designed in phase I will be adjusted, according to new research results, and evaluated in on-farm trials.

/ANIMAL PRODUCTION/ - /TROPICAL ZONE/ /LAND USE/ /FEED/ /GRASSES/ /GRASSLAND/ /ANIMAL HUSBANDRY/ /AGRICULTURAL EXTENSION/
$405000 36 months
-INSTITUTO VETERINARIO DE INVESTIGACIONES TROPICALES Y DE ALTURA (IVITA), LIMA, PE

83-0120 (AFNS)
CHAMECULTURE (ECUADOR) - PHASE II

The fish occurring from Mexico to Northern Peru, Dormitator latifrons, locally called "Chame", has long been recognized as an interesting species for fish culture. Phase I of this project has contributed to a strong awareness of the importance of Chame as a cultivated food fish for rural communities in Ecuador. While a great deal has been achieved in phase I, in terms of basic biological information on Chame, the technological knowledge of Chameculture is still insufficient to insure the success of a commercial enterprise. Phase II will develop a technological package for Chame cultivation, which can be transferred to the rural communities of Ecuador. The specific objectives are to complete biological and ecological studies; to study the conditions of growth in earthen ponds; to study the best methods for handling, storage, and transport; and to determine commercialization channels for Chame and advise on improvements for marketing the future production.

/FISH CULTURE/ - /FISH UTILIZATION/ /FISHERY RESEARCH/ /FISH PRODUCTION/ /FISH BREEDING/
$202290 36 months
-FUNDACION CIENCIA PARA EL ESTUDIO DEL HOMBRE Y LA NATURALEZA, QUITO, EC

83-0121 (SS)
HOUSEHOLD ECONOMIC STRATEGIES AND FERTILITY (KOREA)

The government of the Republic of Korea established its official population policy in 1961. During its first two decades of operation, the program demonstrated considerable success; however, Korea's rate of fertility decline seems to have fallen off since 1980. Researchers hypothesize that the cultural preference for sons may be partially responsible. Successful policy formulation on fertility reduction depends on a clearer understanding of these preferences and their broader relationship to the status of women within Korean society. This project will analyze the relationships between fertility and socioeconomic factors in Korea. Researchers will examine specific factors (e.g. value of children, son preference, female status, and consumption and savings patterns) and how these relate to family size and fertility ideals.

/FERTILITY/ - /CULTURAL FACTORS/ /CHILD REARING/ /FAMILY BUDGET/ /WOMEN/ /SOCIAL ROLE/
$50000 24 months
-POPULATION ASSOCIATION OF KOREA (PAK), SEOUL, KR

83-0122 (AFNS)
FOOD LEGUME IMPROVEMENT (SUDAN) - PHASE II

Legume crops (especially faba beans) are in ever-increasing demand in the Sudan. In phase I of this project research was conducted to develop varieties of faba beans with high and stable yields and resistance to major diseases (leaf mosaic, powdery mildew, root rot, and leaf curl), and to develop varieties of lentils and haricot beans tolerant to extreme temperatures and high soil salinity. Promising cultivars were tested for yield stability, disease resistance, protein content, and salt tolerance. Phase II will continue research begun in phase I, concentrating upon breeding and selecting faba beans, haricot beans, chickpeas, and field peas. Agronomic research will focus on the verification of earlier research results by combining promising practices in a package appropriate for on-farm testing.

/LEGUMINOSAE/ - /GENETIC IMPROVEMENT/ /DISEASE RESISTANCE/ /PLANT BREEDING/ /BEANS/ /FABA BEANS/ /CHICKPEAS/ /CULTIVATION PRACTICES/
$265200 36 months
-AGRICULTURAL RESEARCH CORPORATION, WAD MEDANI, SD

83-0123 (AFNS)
Food Legumes North Africa (ICARDA)

Faba beans, chickpeas and lentils are important crops in the Maghreb countries of North Africa -- Algeria, Morocco and Tunisia. These crops are grown mostly by small farmers in rotation with the major cereals, wheat and barley. The purpose of this project is to develop improved varieties of faba beans, chickpeas and lentils, and to encourage their adoption, together with improved farming practices, by legume growers. Specific objectives are to strengthen national and regional research capabilities in food legumes; and develop legume varieties that have higher and consistent yield potential, and are resistant to disease and the parasitic weed Orobanche.

/leguminosae/ /genetic improvement/ /cultivation practices/ /organization of research/
$599300 36 months
-International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, SY

83-0124 (HS)
PROMOTION OF BREAST-FEEDING (DOMINICAN REPUBLIC)

In the urban squatter settlements of the developing world, the immunological properties of breast-milk can mean the difference between life and death. However, even as its advantges are beginning to be appreciated, the incidence and duration of breast-feeding continue to decline in almost every developing nation. To combat this trend, the government of the Dominican Republic proposes to design and evaluate a program aimed at promoting breast-feeding among poor urban mothers. This project will develop, implement and evaluate a training program for health workers in breast-feeding promotion; gather information on infant-feeding practices among women living in the peri-urban areas of Santo Domingo; and study the factors which inhibit breast-feeding among the women studied.

/breast feeding/ - /HEALTH MANPOWER/ /ATTITUDES/ /HEALTH EDUCATION/
$162510 27 months
-SECRETARIA DE ESTADO DE SALUD PUBLICA Y ASISTENCIA SOCIAL, SANTO DOMINGO, DO

83-0125 (AFNS)
FARMING SYSTEMS RESEARCH (IITA)

It is evident that agricultural research in West Africa needs to give more attention to understanding the opportunities and constraints among the small holder farmers. Over the last decade IDRC has supported on-farm cropping systems research programs. The objective of this project is to strengthen farming systems research capability in West African national research institutions. The project will develop on-farm research methods which are acceptable to West African national research institutions; test measurement techniques, experimental designs, and economic evaluation methods in cooperation with existing farming systems research teams; strengthen the capability of the International Institute of Tropical Agriculture to train economists and social scientists from national programs in farming systems research techniques; and cooperate with the West African Farming Systems Research Network in evaluating this research methodology.

/AGRICULTURAL RESEARCH/ - /FARMING SYSTEMS/ /RESEARCH METHODS/ /ORGANIZATION OF RESEARCH/
$417900 36 months
-INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE (IITA), IBADAN, NG

83-0126 (AFNS)
TIMBER GRADING (MEXICO) - PHASE III

The development of appropriate code rules and design specifications for the lumber industry is a major task in a country like Mexico because of the scarcity of technical information. Phase I of this project conducted a series of mechanical tests to determine design stress values for lumber and other technical data of importance for the use of wood in construction. Phase II verified and expanded findings from the first phase by testing the products from several sawmills in other regions. Phase III will facilitate the adoption of the findings by the sawmill industry, implement a suitable quality control program, introduce new design values in the building codes, and conduct confirmatory tests for tension and compression stresses.

/TIMBER/ - /WOOD CONSTRUCTION/ /STANDARDS/ /ENGINEERING DESIGN/ /QUALITY CONTROL/
$146000 24 months
-INSTITUTO DE INVESTIGACIONES SOBRE RECURSOS BIOTICOS (INIREB), VERACRUZ, MX

83-0127 (SS)
ECONOMICS STABILIZATION AND INCOME DISTRIBUTION (GLOBAL)

Economic stabilization policies aimed at lowering inflation and improving the external account inevitably produce changes in income distribution. But with the exception of a number of broadly based studies, there has been little research into such distributional effects. This project will examine the question as it applies to Sri Lanka, India and Zimbabwe. Trends in income distribution in these countries, plus Kenya, will be compared. Project results will indicate which groups or regions are likely to benefit or lose from particular stabilization measures.

/STABILIZATION/ - /INCOME DISTRIBUTION/ /ECONOMIC POLICY/ /ECONOMIC RECESSION/ /ECONOMIC STRUCTURE/ /COMPARISON/
$92500 18 months
-OVERSEAS DEVELOPMENT INSTITUTE (ODI), LONDON, GB

83-0128 (AFNS)
PRACIPA NETWORK (CIP)

The International Potato Centre (CIP) has assembled a team of social scientists to look at the socioeconomic aspects of potato technology. In the Andean countries, CIP has encouraged an informal research network during past years to facilitate training, exchange of information, and exchange of germ plasm. Members of the network PRACIPA (Andean Cooperative Program for Potato Research) recently decided to formalize its structure, and defined a number of priority research topics that should be tackled by the countries. This project will support research activities in five Andean countries: Peru, Bolivia, Colombia, Ecuador and Venezuela to increase the rate of exchange of information and germ plasm and to promote training for farmers and technical staff. Research activities will include the promotion of viable potato seed multiplication schemes; the determination of an integrated pest management approach; and the development of improved on-farm storage systems.

/POTATOES/ - /ORGANIZATION OF RESEARCH/ /AGRICULTURAL RESEARCH/ /AGRICULTURAL PRODUCTION/ /GENETIC IMPROVEMENT/ /PEST CONTROL/ /post-harvest systems/
$504000 36 months
-CENTRO INTERNACIONAL DE LA PAPA (CIP), LIMA, PE

83-0129 (SS)
ECONOMIC DIVERSIFICATION (PERU)

In Peru, many peasant communities have undertaken diverse economic activities to supplement their agricultural incomes and these activities have permitted them to achieve a level and security of income which many government programs have been unable to provide. This project will examine three peasant communities in the Huancavelica region of Peru to analyze the importance of economic diversification in providing employment and income to their members. Researchers will estimate the importance and stability of income derived from land relative to that derived from nonagricultural activities; identify those activities which could provide increased income if expanded and suggest appropriate government policies to encourage them.

/ECONOMIC CONDITIONS/ - /PEASANTS/ /COMMUNITY DEVELOPMENT/ /EMPLOYMENT OPPORTUNITIES/ /INCOME/ /TEMPORARY EMPLOYMENT/
$73100 12 months
-CENTRO REGIONAL DE ESTUDIOS SOCIOECONOMICOS (CRESE), LIMA, PE

83-0130 (HS)
NON-SURGICAL STERILIZATION (SOUTHEAST ASIA)

Sterilization is the most effective means of fertility regulation available. Conventional female sterilization, however, exposes women to the risk of potentially serious infections associated with major surgery, suggesting that more research into nonsurgical female sterilization techniques is needed. This project will evaluate the intrauterine quinacrine pellet method of nonsurgical female sterilization for safety, effectiveness, acceptability, cost and ease of administration. Clinical trials will be carried out in Bandung, Indonesia; Kuala Lumpur, Malaysia; and Bangkok, Thailand.

/STERILITY/ - /WOMEN/ /CHEMICALS/ /FEMALES/ /GYNAECOLOGY/
$114610 33 months
-INTERNATIONAL FEDERATION FOR FAMILY HEALTH, JAVA, ID

83-0131 (HS SS)
PHARMACEUTICAL MARKETING PRACTICES (MALAYSIA)

Regulation of the quality, sale and distribution of pharmaceutical drugs has been a neglected area in health planning in many developing countries. This has been a serious omission because the increased availability of drugs, and their aggressive promotion in developing countries by drug companies has led to considerable drug misuse and abuse. As is the case in many developing countries, Malaysia's drug regulations are very weak. There has been little progress in Malaysia, in terms of developing regulations, formulating changes in drug policy, or enforcing legislation. Nor has there been a comprehensive study of pharmaceutical marketing practices in the country. This project will investigate the sale and promotion of pharmaceuticals in Malaysia. Information will be collected on commonly prescribed drugs; marketing practices of the drug industry; the adequacy of available drug information; and difficulties in labelling and promotion.

/DRUGS/ - /MARKETING/ /LABELLING/ /CONSUMER PROTECTION/ /ADVERTISING/ /PRICING/ /LEGAL ASPECTS/ /CONSUMER EDUCATION/
$127320 18 months
-CONSUMERS' ASSOCIATION OF PENANG, PENANG, MY

83-0132 (AFNS)
ROOT CROPS (CAMEROON/IITA/ - PHASE III

Root crops are important staple foods in almost all areas of Cameroon. Phases I and II of this project have assisted the Cameroon government in establishing the Cameroon National Root Crop Improvement Program. Significant progress has been made in developing a strong, indigenous, institutional base for research on cassava, cocoyams, yams, and sweet potatoes, particularly by training a number of Cameroonian scientists. Promising cultivars have been evaluated for disease resistance, vigour, and yield. Phase III will continue to develop improved varieties of cassava, yam, cocoyam, and sweet potato, incorporating field resistance to major diseases and pests into improved varieties of the four crops; and develop improved cropping practices for these root crops, which will be readily accepted by farmers.

/ROOT CROPS/ - /CASSAVA/ /SWEET POTATOES/ /GENETIC IMPROVEMENT/ /PLANT DISEASES/ /DISEASE RESISTANCE/ /CULTIVATION PRACTICES/
$455700 36 months
-INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE (IITA), IBADAN, NG
-DELEGATION GENERALE DE LA RECHERCHE SCIENTIFIQUE ET TECHNIQUE, YAOUNDE, CM

83-0133 (AFNS)
ROOT CROPS (UGANDA)

Root crops are an important source of food in Uganda. In the drier northern and eastern areas, the staple food is cassava flour mixed with sorghum and further enriched with groundnuts. Sweet potato, which provides both a starchy tuber and a nutritious leafy vegetable, is the other root crop of national importance. But yields of cassava and sweet potato have been reduced by disease. This project will develop improved varieties and husbandry practices which are acceptable to producers and consumers of cassava and sweet potato. Researchers will assess farmers' production methods and constraints; identify varieties with resistance to pests and diseases; develop improved crop management practices that are within farmers' means; and devise control methods for the cassava green mite.

/ROOT CROPS/ - /CASSAVA/ /SWEET POTATOES/ /GENETIC IMPROVEMENT/ /CULTIVATION PRACTICES/ /PLANT PROTECTION/
$330400 36 months
-MINISTRY OF AGRICULTURE AND FORESTRY, ENTEBBE, UG

83-0134 (IS)
INFORMATION CENTRE ON DEVELOPMENT-POLICY MODELLING

Most work in development policy modelling is conducted at centres in the developed world, and detailed information about current findings and advances in methodology is not readily available to workers in Asia. This project will support the establishment of the Information Centre on Development-Policy Modelling at the Systems Research Institute (SRI) in Pune, India. The Centre will collect, process, and disseminate information on development policy modelling; adapt models which can be run on SRI's minicomputer; select some of these models and create transportable versions of them to run on a microcomputer; prepare user manuals for these computer applications; hold workshops to make information and training available on modelling techniques; and demonstrate the use of these techniques on a minicomputer and microcomputer.

/MODELS/ - /INFORMATION SERVICES/ /DEVELOPMENT PLANNING/ /SIMULATION/ /DATA PROCESSING/
$427500 60 months
-SYSTEMS RESEARCH INSTITUTE (SRI), PUNE, IN

83-0135 (SS)
AGRO-EXPORTS (ECUADOR)

Ecuador is the world's largest exporter of bananas and is highly dependent on earnings from this crop to sustain its economic development. With the anticipated exhaustion of Ecuador's oil reserves, the country will come to rely heavily on its agro-exports for foreign exchange earnings. This project will examine the regional economy of Ecuador's southern coastal region, a zone which produces nearly all of the country's bananas for export and much of its cocoa. Researchers will analyze the marketing system for bananas and for cocoa, and the means by which prices and production quotas are determined; study the contractual arrangements and technical assistance offered by banana exporters to local producers; study the income and living conditions of agricultural labourers; and suggest alternative marketing structures, contractual agreements, and pricing policies for banana and cocoa industries.

/INDUSTRIAL CROPS/ - /EXPORT EARNINGS/ /BANANAS/ /COCOA/ /TEMPORARY EMPLOYMENT/ /WAGES/ /INTERNATIONAL TRADE/ /DEMAND/ /MARKETING/
$69600 12 months
-FACULTAD LATINOAMERICANA DE CIENCIAS SOCIALES (FLACSO), QUITO, EC

83-0136 (HS)
PNEUMOCONIOSIS (KOREA)

Pneumoconiosis, a dust-related occupational disease, leads to fibrosis of the lungs and is often accompanied by tuberculosis. It is the most prevalent occupational hazard in South Korean industries, taking the form of anthracosis in coal workers. This project will document the progression of pneumoconiosis in Korean coal-face miners in relation to the duration and degree of exposure. Dust conditions in the mines will be assessed in light of current hygienic standards and the amount of dust inhaled by the miners. The results of the research will enable the investigators to suggest further environmental and managerial preventive measures.

/OCCUPATIONAL DISEASES/ - /COAL MINING/ /MINERS/ /WORKING CONDITIONS/ /OCCUPATIONAL HYGIENE/ /OCCUPATIONAL SAFETY/
$86580 18 months
-CATHOLIC INDUSTRIAL MEDICAL CENTRE, SEOUL, KR

83-0137 (SS)
SECONDARY EDUCATION IN ARGENTINA

Four out of 10 adolescents now attend secondary school in Argentina. This represents a considerable expansion in enrolment over previous years. This project will analyze the structure and role of secondary education within the context of Argentinian society. Specifically, researchers will examine the relationship between secondary schooling and income; the quality and content of the first and last years within the system; and the entry of both early school leavers and graduates into the labour market.

/SECONDARY EDUCATION/ - /QUALITY OF EDUCATION/ /COST OF EDUCATION/ /TRANSITION FROM SCHOOL TO WORK/
$284000 36 months
-FACULTAD LATINOAMERICANA DE CIENCIAS SOCIALES (FLACSO), BUENOS AIRES, AR

83-0138 (AFNS)
ECONOMICS OF SHELLFISH PROCESSING (THAILAND)

Traditionally, shellfish collection and culture have played an important role in the fisheries of Thailand. Research to date seems to indicate excellent potential for improved shellfish culture along the country's coastal marine and brackishwater zones. Any benefits from increased shellfish production will depend, however, on an efficient, economically viable processing industry. As a first step in this direction, this project will take inventory of the major types of commercial shellfish processing operations; determine the demand for their respective products; analyze the costs and returns associated with each; and identify suitable markets and marketing methods for processed shellfish products.

/SHELLFISH/ - /FISHERY PRODUCT PROCESSING/ /MARKETING/ /COST ANALYSIS/
$30200 12 months
-INTERNATIONAL CENTRE FOR LIVING AQUATIC RESOURCES MANAGEMENT (ICLARM), MANILA, PH

83-0139 (SS)
IMPACT OF POPULATION AND COMMUNITY DEVELOPMENT PROGRAM (THAILAND)

The Population and Community Development Association (PDA) of Thailand launched the Community Based Integrated Rural Development (CBIRD) project with the intention of improving living standards and employment opportunities of people in 60 economically depressed villages. Support for a second project has been acquired with the stipulation that it be carefully evaluated--the objective of this IDRC supported project. The researchers will evaluate CBIRD II by collecting baseline data on target communities; periodically assessing the progress of CBIRD II; determining the effectiveness of various CBIRD strategies; and measuring the impact of the project in terms of economic, environmental, and health changes within the participating villages.

/RURAL DEVELOPMENT/ - /INTEGRATED APPROACH/ /EVALUATION/ /FAMILY PLANNING/ /MATERNAL AND CHILD HEALTH/ /PROJECT EVALUATION/
$243700   44 months
-MAHIDOL UNIVERSITY, BANGKOK, TH

83-0140 (HS)
TUBERCULOSIS (KOREA)

Tuberculosis is a chronic infectious disease and still an important cause of illness and death in South Korea. There has been a growing interest in vaccination measures for the control of tuberculosis. The vaccine commonly used is BCG (Bacillus Calmette-Guérin). Although the vaccine has been used extensively in many developing countries, results from recent field studies in India have raised questions as to the protective effect of the vaccine. This project will determine the incidence of tuberculosis, according to the vaccination status, in Korean children below five years of age who are contacts of new cases of tuberculosis. Researchers wil describe the clinical and epidemiological characteristics of tuberculosis in children.

/TUBERCULOSIS/ - /VACCINES/ /DISEASE CONTROL/ /CHILDREN/ /EPIDEMIOLOGY/
$136050   31 months
-KOREAN INSTITUTE OF TUBERCULOSIS, SEOUL, KR

83-0141 (AFNS)
Fuelwood Plantations (Zambia)

In densely populated areas of Zambia, the rapidly diminishing supply of wood for domestic energy is of great concern. The most feasible solution is to plant fast-growing trees on a large scale in order to meet the demand. The government is committed to solving the wood-energy problem, but does not have the research data needed to guide the establishment of fuelwood plantations. It is important to carry out species trials on different soils in order to obtain needed technical and economic data. This project will provide information about the performance of a range of fuelwood species and their most appropriate spacing for fuelwood and polewood production.

/fuelwood/ /silviculture/ /manmade forests/ /forest management/ /forestry research/
$192200   36 months
-Zambia. Ministry of Lands and Natural Resources, Lusaka, ZM

83-0142 (FAD SS)
GRADUATE PROGRAM IN EDUCATIONAL RESEARCH (WEST AFRICA)

The availability of relevant educational research and analysis is critical to the effective planning, development, implementation, and evaluation of educational policies. To strengthen these research capabilities in Francophone West Africa, this project will support the establishment of a regional graduate educational research training program which will develop research skills for the evaluation of the schooling process, and for educational policy studies within a context relevant to the African educational situation. The research training process will relate to practical problems in order to provide much needed policy-relevant information during the training process.

/EDUCATIONAL RESEARCH/ - /EDUCATIONAL PLANNING/ /EDUCATIONAL REFORMS/
$335000 34 months
-ASSOCIATION POUR LE DEVELOPPEMENT DE LA FORMATION ET DE LA RECHERCHE EN EDUCATION EN AFRIQUE, LOME, TG

83-0143 (AFNS)
CASSAVA MITES (EASTERN AFRICA) (CIBC) - PHASE IV

Green cassava mites, introduced accidentally to Africa from South America in 1971, have significantly reduced yields of cassava. In 1974, the Commonwealth Institute of Biological Control developed a strategy based on the identification and introduction into Africa of natural enemies of the mites from their native South America. Phases I and II of this project supported survey work in South America and initial testing of predator species in Trinidad. Phase III evaluated the performance of predators under African field conditions and showed the feasibility of introducing and establishing them on farmers' fields. Phase IV will support the extension of the control measure throughout Eastern Africa.

/CASSAVA/ - /PEST CONTROL/ /BIOLOGICAL CONTROL/ /PLANT DISEASES/ /DISEASE CONTROL/ /ENTOMOLOGY/
$140100 24 months
-COMMONWEALTH INSTITUTE OF BIOLOGICAL CONTROL (CIBC), CUREPE, TT

83-0144 (HS)
GASTRIC CANCER (KOREA)

Gastric cancer is the main cause of cancer-related deaths in South Korea. This project will attempt to determine whether there is a relationship between the disease and a number of environmental factors (diet, drinking water, use of cigarettes and alcohol, family history, etc.) by comparing populations in two geographical areas of South Korea, one with a high incidence of gastric cancers, the other with a low incidence. The results of the project will provide valuable data to strengthen a national cancer registry established in 1981.

/CANCER/ - /REGIONAL DISPARITY/ /LIVING CONDITIONS/ /DIET/
$57490 18 months
-KYUNGPOOK NATIONAL UNIVERSITY, TAEGU, KR

83-0145 (SS)
METHODOLOGICAL RESEARCH ON POPULATION, HEALTH AND DEVELOPMENT (GLOBAL)

The objective of this project is to support a series of activities which will strengthen the ability of social science researchers in developing countries to undertake studies on infant mortality levels and trends, and on the social, economic, and cultural determinants of these levels and trends. The project support will include the preparation of technical research papers, specialized bibliographical and methodological materials, and the organization of dissemination and technical research methodology workshops. These mechanisms will assist in the rapid dissemination of research results and encourage new approaches to research.

/MORTALITY/ - /SOCIAL RESEARCH/ /ORGANIZATION OF RESEARCH/ /SCIENTIFIC COOPERATION/ /INFANT MORTALITY/ /INTERDISCIPLINARY RESEARCH/
$477000 24 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

83-0146 (HS)
OPHTHALMIA NEONATORUM (KENYA)

Ophthalmia neonatorum is an eye infection of the newborn, caused principally by the sexually transmitted agents Neisseria gonorrhoeae and Chlamydia trachomatis. If untreated, it may result in blindness. Ophthalmia neonatorum associated with gonorrhea can be effectively prevented by the administration of silver nitrate eye drops during the immediate post-natal period. This is practiced routinely in many developed countries, but in relatively few developing countries, and in Kenya it has been discontinued. The objectives of this project are to determine the incidence and etiology of ophthalmia neonatorum in a selected population in Kenya and to evaluate the most effective methods of prevention and treatment.

/EYE DISEASES/ - /DISEASE CONTROL/ /EPIDEMIOLOGY/ /INFANTS/ /MATERNAL AND CHILD HEALTH/ /VENEREAL DISEASES/ /MEDICAL RECORD/
$245300 30 months
-UNIVERSITY OF NAIROBI, NAIROBI, KE

83-0147 (HS)
TROPICAL DISEASE RESEARCH (GLOBAL) - PHASE V

The Special Programme for Research and Training in Tropical Diseases represents an international response to major health problems of developing countries in the tropics. The Programme has concentrated on six major diseases: malaria, schistosomiasis, leprosy, filariasis, trypanosomiasis, and leishmaniasis. This grant will provide support for the Programme in its efforts to develop new tools for the prevention, diagnosis and treatment of tropical diseases; and strengthen the research capabilities of where these diseases are endemic.

/TROPICAL DISEASES/ - /DISEASE CONTROL/ /ORGANIZATION OF RESEARCH/
$300000 24 months
-WORLD HEALTH ORGANIZATION (WHO), GENEVA, CH

83-0148 (IS)
REMOTE SENSING AND MANGROVES (THAILAND)

Mangrove resources in Thailand and the rest of Southeast Asia have been depleted as a result of exploitation and competition from human settlement. Improved monitoring systems are therefore critical to the management of this important renewable resource. The objectives of this project are to inventory mangrove areas in Thailand using remote sensing techniques, and to strengthen local research capability in these skills. Updated information on mangrove distribution and classification will be compiled and thematic maps for selected test sites will be produced.

/REMOTE SENSING/ - /RESOURCES INVENTORY/ /TREES/ /RESOURCES MANAGEMENT/ /MAPS/ /RESOURCES EXPLOITATION/
$376900 36 months
-NATIONAL RESEARCH COUNCIL, BANGKOK, TH

83-0149 (HS)
TUBERCULOSIS (BRAZIL)

Tuberculosis is a chronic infectious disease and still an important cause of illness and death in Brazil. Chemotherapy, the use of drugs in the treatment or control of disease, remains a keystone as far as effective control programs are concerned. Considerable progress has been achieved in the field of chemotherapy in the last ten years, especially with reference to the duration of treatment. There is a growing interest in the concept of "short-term" chemotherapy. While chemotherapy has successfully been used to treat tuberculosis, the high costs of drugs have severely limited their availability in the Third World. This project will assess the effectiveness of short-term chemotherapy for the control of tuberculosis in Brazil. Researchers hope to show that short-term chemotherapy is significantly cheaper, less toxic and equally effective when compared to the standard treatment which is currently used in Brazil.

/TUBERCULOSIS/ - /DRUGS/ /DISEASE CONTROL/
$153450 24 months
-ESCOLA PAULISTA DE MEDICINA, SAO PAULO, BR

83-0150 (IS)
DEVSIS CAPE VERDE

Cape Verde is a relatively newly independent country which seeks to give decision-makers, planners and researchers access to information about the development process in their country. Some Cape Verdians have already actively participated in the setting-up of RESADOC (Réseau sahélien d'information et de documentation scientifiques et techniques pour le Sahel). The objective of this project is to allow Cape Verde to establish a national information system in the DEVSIS format. This national system will collect, process and disseminate information on social and economic development and will publish the first two issues of DEVINDEX Cape Verde. Training in DEVSIS methodology and the installation of a micrographics service and the training of its technician are foreseen. Cape Verde will also participate in the exchange of information at the international level through PADIS (Panafrican development information system).

/DEVSIS/
$148500 24 months
-SECRETARY OF STATE FOR COOPERATION AND PLANNING, PRAIA, CV

83-0151 (IS)
MARKET INFORMATION SYSTEM (CARIBBEAN) PILOT PROJECT

Up-to-date information on the production and sale of non-traditional export crops in the Caribbean is virtually non-existent at present and its absence has severely hampered the growth of regional trade in food products. This project will develop a pilot information system to provide current market information on domestic food commodities in Antigua, Dominica and Trinidad and Tobago with a view to identifying market opportunities and to promoting regional trade. Information will be disseminated through a monthly information bulletin, a bi-annual agricultural status report, and personalized information services.

/INFORMATION SYSTEMS/ - /COMMODITY MARKET/ /SUPPLY AND DEMAND/ /COMMODITY PRICES/ /INFORMATION SERVICES/
$284000 24 months
-ASSOCIATION FOR CARIBBEAN TRANSFORMATION (ACT), PORT-OF-SPAIN, TT

83-0152 (IS)
REPIDISCA - CONSOLIDATION PHASE - PHASE III

The primary goal of the Regional Information Network in Sanitary Engineering and Environmental Sciences (REPIDISCA) is to assist in the exchange of information on sanitary and environmental engineering needed to meet the health goals of the Latin American and Caribbean regions. Phase I of the project provided for the planning and design of the information network, while Phase II undertook its pilot operation. The network has since grown rapidly and, with the increase in participating national centres, it is necessary to consolidate operations to improve the quality of services. Phase III will enable CEPIS, the regional coordinating centre, to strengthen the network through the development of information infrastructures at the country level, and to consolidate the operation and services of the regional coordinating centre.

/WATER SUPPLY/ - /INFORMATION SYSTEMS/ /SANITATION/ /INFORMATION SERVICES/
$538900 24 months
-PANAMERICAN HEALTH ORGANIZATION (PAHO), WASHINGTON, US

83-0153 (SS)
POPULATION MOBILITY AND DEVELOPMENT (JAMAICA)

Jamaica is facing a persistently high level of unemployment. To address this problem, it is necessary first to understand the nature of the national labour force, including the mobility of the population. This project will analyze the dynamics of the spatial and sectoral mobility of the labour force within the context of national development strategies. Specifically, researchers will conduct a study of the spatial and sectoral mobility of the labour force from 1973 to 1983 and will develop a methodology for assessing the relationship between population mobility and development strategies, that is policies to increase agricultural production and stimulate non-farm employment. Researchers will be trained in all aspects of research design, implementation, and analysis.

/LABOUR MOBILITY/ - /DEVELOPMENT STRATEGY/ /MANPOWER PLANNING/ /INDUSTRIAL DEVELOPMENT/ /RURAL MIGRATIONS/
$200000 24 months
-UNIVERSITY OF THE WEST INDIES (UWI), MONA, JM

83-0154 (SS)
INFANT MORTALITY AND FERTILITY (INDIA)

This project will initiate a number of research projects in India which will focus on the social, economic, and environmental factors associated with infant mortality. Based on household surveys researchers will examine the interrelationship between infant mortality and fertility; the biological, social, economic, and environmental factors associated with infant mortality; the impact of intervention programs, i.e. health and family planning services on fertility and infant mortality; parents' attitudes and beliefs regarding infant death; and the effect of infant death on fertility. Recommendations will be made on interventions that could reduce infant mortality.

/INFANT MORTALITY/ - /FERTILITY/ /FAMILY SIZE/ /ATTITUDES/ /FAMILY PLANNING/ /HEALTH SERVICES/
$272000 36 months
-FAMILY PLANNING FOUNDATION, NEW DELHI, IN

83-0155 (SS)
AGRICULTURAL RESETTLEMENT RESEARCH AND TRAINING PROGRAM (SUDAN)

Planned resettlement schemes are of vital importance in arid countries where irrigation is essential to agriculture, but their successful design and implementation depends, in part, on social science research. Recognizing this, the Rahad irrigated agriculture and resettlement scheme in Sudan undertook a research and training program for Masters level students. This project will continue support for research and training relevant to the policy needs of the Rahad scheme, with particular emphasis on population issues.

/LAND SETTLEMENT/ - /AGRICULTURAL PLANNING/ /IRRIGATION/ /policy making/ /POPULATION TRANSFERS/
$135000 36 months
-RAHAD CORPORATION, KHARTOUM, SD

83-0156 (HS)
PIGGERY WASTE TREATMENT (MALAYSIA)

Malaysia, despite being a Muslim country, has a large pig-rearing industry to meet the domestic demand for pork. The industry, however, is posing serious environmental problems due to the indiscriminate disposal of piggery wastes. This project will examine the feasibility of designing a centralized treatment system for a group of small farms at the Bukit Pelandok district of the state of Negri Sembilan. The project will investigate various waste collection and wastewater treatment options and develop preliminary designs for a centralized system which will be pilot-tested and evaluated in a subsequent phase.

/WASTE TREATMENT/ - /SWINE/ /WASTE WATERS/ /WASTE DISPOSAL/ /AGRICULTURAL WASTES/
$85600 12 months
-DEPARTMENT OF VETERINARY SERVICES, MINISTRY OF AGRICULTURE, KUALALUMPUR, MY

83-0157 (SS)
REGIONAL LABOR FORCE DYNAMICS (BOLIVIA AND ECUADOR)

This project will support collaboration, between the Centro de Estudios de la Realidad Economica y Social in Bolivia and the Centro de Investigaciones y Estudios Socio-economicos in Ecuador, in a study of regional development processes and their effect on labour force dynamics and community development. The project will strengthen regional social science research capability by providing training in research methodology and data collection and analysis.

/REGIONAL DEVELOPMENT/ - /MANPOWER/ /COMMUNITY DEVELOPMENT/
$231700 24 months
-CENTRO DE ESTUDIOS DE LA REALIDAD ECONOMICA Y SOCIAL (CERES), LA PAZ, BO

83-0158 (IS)
COLOMBIAN AGRICULTURAL INFORMATION SYSTEM

Colombian institutions have collected and catalogued their agricultural information, but are now looking for more effective methods of disseminating it. This project aims to coordinate the acquisition of information by agricultural institutions; create a computerized catalogue of agricultural information; offer on-line searching of data bases using MINISIS software; provide access to literature through microfiche copies of items of information; and increase Colombian participation in AGRIS/AGRINTER.

/INFORMATION SERVICES/ - /AGRICULTURE/ /INFORMATION PROCESSING/ /AGRIS/
/INFORMATION EXCHANGE/ /DATA BASES/
$332470 24 months
-FUNDACION MARIANO OSPINA PEREZ, BOGOTA, CO

83-0159 (SS)
INDUSTRIAL AND REGIONAL PLANNING (EGYPT)

In Egypt, the absence of a consistent regional development strategy has resulted in the concentration of new industrial growth and related manufacturing and services in the metropolitan areas of Cairo and Alexandria. Egypt's Minister of Planning has assigned high priority to industrial planning, with particular emphasis on achieving a sound distribution of new industrial activities throughout the country. This project will provide support for the creation of a series of maps summarizing the information essential to industrial planning. The maps will depict the distribution of enterprises within a given area, the human and physical resources available to each region, the capacity of existing services, current and planned transport links, etc. This information will be used to assess the possible consequences of different development strategies on spatial distribution.

/INDUSTRIAL PLANNING/ - /REGIONAL PLANNING/ /LOCATION OF INDUSTRY/ /MAPS/
/LOCATION FACTORS/ /INDUSTRIAL POTENTIAL/
$81800 24 months
-INSTITUTE OF NATIONAL PLANNING, CAIRO, EG

83-0160 (SS)
UPLAND RESOURCE DEVELOPMENT STUDIES I (PHILIPPINES)

Most of the seven provinces of the North Mindanao Region in the Philippines are uplands more than 300 metres above sea level, often with slopes greater than 18 degrees. The government is giving increased attention to upland resource development because the people of these lands are among the poorest in the Philippines and because severe exploitation of timber resources and widespread settlement by migrants practicing slash-and-burn agricultural practices have destroyed much of the upland soil resources. This project is the first of a proposed informal network of research projects to address these issues. Researchers will study and compare the interaction of the population with its environment as reflected in land tenure and resource use, production strategies and conservation technologies. They will determine land tenure arrangements; examine cultivation patterns and farming systems; and identify soil conservation practices.

/ECOSYSTEMS/ - /LAND TENURE/ /CULTIVATION SYSTEMS/ /RESOURCES INVENTORY/ /RESOURCES MANAGEMENT/ /RESOURCES CONSERVATION/
$99000   18 months
-UNIVERSITY OF THE PHILIPPINES AT LOS BANOS DEVELOPMENT FOUNDATION INC. (UPLBDFI), LAGUNA, PH

83-0161 (SS)
ORO EDUCATION STUDY (PAPUA NEW GUINEA)

Because Papua New Guinea cannot afford to provide all eligible students with a full education, students move from primary to high school on the basis of merit alone. Unfortunately, the merit system tends to discriminate against rural students. This project will investigate why some community schools in Oro Province consistently fail to send their students to high school. Specifically, the project will attempt to identify the factors that seem to account for or be associated with exam success or failure among rural schools (e.g. school resources, teaching practices, cultural factors, etc.); assess the impact of merit selection on the children concerned on the school and its staff, and on the community as a whole; and make recommendations to the province as to how the selection system might be altered to ensure more equitable distribution of access to high school.

/EDUCATIONAL OUTPUT/ - /COMPARATIVE ANALYSIS/ /RURAL SCHOOLS/ /QUALITY OF EDUCATION/ /ACCESS TO EDUCATION/
$34630   24 months
-UNIVERSITY OF PAPUA NEW GUINEA, PORT MORESBY, PG

83-0162 (SS)
THE DEVELOPMENTS IN MICROELECTRONICS AND THEIR IMPACT IN ARGENTINA (ARGENTINA)

Technological innovations in the electronics sector are expected to have profound and wide ranging impact on economic growth, foreign trade, production, skill requirements, etc. in most economies. This project will investigate the production and use of selected microelectronic devices in Argentina to determine the nature and impact of their use. Researchers will examine the present and anticipated demand for microelectronic products and devices in Argentina, and document sources of supply, with special emphasis on the domestic capability.

/MICROPROCESSORS/ - /ELECTRONICS INDUSTRY/ /TECHNOLOGICAL CHANGE/ /INNOVATIONS/
$96400   15 months
-FACULTAD LATINOAMERICANA DE CIENCIAS SOCIALES (FLACSO), BUENOS AIRES, AR

83-0163 (SS)
FOOD CONSUMPTION AND THE URBAN POOR (CHILE)

Statistics show that nutritional standards have declined among the urban poor in Chile in recent years. While available data provide a fair knowledge of the nature and nutritional value of the population's diet, little is known of the social and cultural factors, especially non-economic ones, that influence eating habits. This project is designed to fill that information gap. Information on food consumption behaviour and access to social programs aimed at improving the nutrition of Santiago's poor will be collected and analyzed. The effect of social and cultural variables on consumption behaviour and on the use of such programs will be examined. The research findings will enable the researchers to recommend ways to improve the delivery and efficiency of these programs.

/FOOD CONSUMPTION/ - /LOW INCOME/ /BEHAVIOUR/ /SOCIAL ASPECTS/ /CULTURAL FACTORS/ /FOOD SUPPLY/ /SUBSIDIES/ /DIET/ /NUTRITIVE VALUE/ /FAMILY BUDGET/
$68400 18 months
-PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE, SANTIAGO, CL

83-0164 (SS)
TRAINING FOR RESEARCH: A NETWORK (LATIN AMERICA)

The reduction of social science research at the university level has resulted in the emergence of a number of independent research centres in the Southern Cone region of Latin America. Of major concern to these centres is the lack of trained researchers and the opportunity for graduate students interested in social science research to pursue their interests. To address these problems, a number of research centres have undertaken training activities. This project will support the creation of a training network which will pool the resources of the social science research centres in order to improve the quality of research training programs. Specifically, the project will support working meetings for instructors, a seminar for researchers, the interchange of students/researchers and instructors among institutions, and visits from scholars from outside the region.

/SOCIAL RESEARCH/ - /ORGANIZATION OF RESEARCH/ /TRAINING/ /SCIENTIFIC COOPERATION/ /STUDENT EXCHANGE/
$134200 24 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

83-0165 (IS)
TRAINING MATERIALS FOR PLANT EFFICIENCY IMPROVEMENT

The Hong Kong Productivity Centre (HKPC) is a statutory organization whose objectives are to promote productivity in industry and to encourage more efficient utilization of resources. Improved productivity depends on actions and decisions made by plant managers and supervisors. This project will enable HKPC to develop teaching aids for training managers in plant efficiency improvement. The teaching aids will consist of a modular set of programs, designed for a training seminar of up to 10 days, commencing with basic plant efficiency measurement and progressing in complexity through evaluation and improvement. These modules will be based on the metal and plastics industries.

/TRAINING COURSES/ - /MODULAR TRAINING/ /PRODUCTIVITY/ /EFFICIENCY/ /MANAGEMENT TECHNIQUES/ /METALWORKING INDUSTRY/ /PLASTICS INDUSTRY/
$86800 30 months
-HONG KONG PRODUCTIVITY CENTRE, TSIMSHATSUI, HK

83-0166 (IS)
CGIAR DATA TRANSFER NETWORK - PILOT PROJECT

The Consultative Group on International Agricultural Research (CGIAR) is an international consortium of institutions dedicated to food production research in developing countries. Due to the rising costs of conventional communication, CGIAR has decided to explore the possibility of implementing a data transfer network. In 1982-83, Telematics International carried out a feasibility study; this project will increase the scope of the study and test a small computer-based message service (CBMS) for CGIAR.

/TELECOMMUNICATIONS/ - /INFORMATION SERVICES/ /ELECTRONIC DATA PROCESSING/
$78000 10 months
-CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH SECRETARIAT, WASHINGTON, US

83-0167 (IS)
IDRIS PILOT PROJECT

In conjunction with other development research-sponsoring agencies, IDRC has supported the idea of establishing an information sharing network in which project information is disseminated amongst member agencies. This project will support the pilot phase of IDRIS, a formalized information system that will provide a common data base of information describing research activities located in or concerned with developing countries, funded or coordinated by agencies which are members of a cooperating group. The main objectives of the IDRIS pilot project are to test the feasibility of the system and to supply the cooperating agencies with the information necessary to determine the long-term status of the system.

/INFORMATION SYSTEMS/ - /RESEARCH PROJECTS/ /INFORMATION EXCHANGE/ /PILOT PROJECTS/
$58300 9 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

83-0168 (SS)
FOOD MARKETING IN SABAH (MALAYSIA)

Against a background of rapid demographic and economic growth, the problem of escalating food costs and unreliable supply has recently become an issue of public concern in the State of Sabah in Malaysia. Fruit and vegetable prices are relatively uncontrolled and foreign imports have increased markedly. This project will describe and analyze the distribution patterns of fruit and vegetables in the three largest towns in Sabah, with a view to lowering the cost to urban consumers and raising the economic returns to rural producers. Researchers will examine the role of middlemen in the distribution system and evaluate the supposed and actual roles played by government agencies in the distribution network.

/DISTRIBUTION/ - /VEGETABLES/ /FRUITS/ /MARKETING/
$88400 24 months
-SOCIOECONOMIC RESEARCH UNIT, KOTA KINABALU, MY

83-0169 (FAD)
RESEARCH FELLOWSHIP (JAGOTA)

This project will provide funds for a Research Fellowship for Dr. S.P. Jagota, the additional Secretary for Foreign Affairs of the Government of India. Dr. Jagota is an expert on research relating to the Law of the Sea Conference (UNCLOS). This project will enable him to prepare the text of a book on UNCLOS III and attend relevant meetings and seminars in Canada.

/LAW OF THE SEA/
$25000 12 months
-JAGOTA, DR. S.P., HALIFAX, NOVA SCOTIA, CA

83-0170 (HS)
FERTILITY RETURN AFTER IUD USE (THAILAND)

The IUD (intrauterine device) is a highly effective method of contraception. In developing countries where women are not accustomed to taking a pill every day, IUDs often have lower pregnancy rates than oral contraceptives. The effect of IUD use on subsequent fertility, however, has not been fully evaluated. This project will investigate the return of fertility among Thai women who have been IUD users for varying periods of time.

/INTRAUTERINE DEVICES/ - /FERTILITY/
$48810 24 months
-CHULALONGKORN UNIVERSITY, BANGKOK, TH

83-0171 (FAD)
RESEARCH FELLOWSHIP (FYFE)

One of the most serious problems facing humankind is that of soil degradation. Dr. W.S. Fyfe, Chairman of the Department of Geology of the University of Western Ontario, London, has been involved in collecting geochemical data from soils in certain regions in the humid tropics. He has also been involved in developing mineral-based additives to correct soil infertility. One of the key problems in this area is to better understand the rate processes involved in soil formation and degradation. This grant will enable Dr. Fyfe to conduct research in this area in Nigeria, Sri Lanka, India and Malaysia.

/SOIL FERTILITY/ - /SOIL ANALYSIS/ /SOIL CHEMISTRY/ /SOIL IMPROVEMENT/
$11000 8 months
-FYFE, DR. W.S., LONDON, ONTARIO, CA

83-0172 (SS)
CHILDREARING PRACTICES AND EDUCATION (LESOTHO)

Pre-school education is expanding rapidly in the developing world. All too often, however, early childhood education programs are based on theories and models of child development established in the developed countries. This project will permit researchers in Lesotho to carry out the first phase of a study on child-rearing practices among the Basotho. Data collected on the education and socialization of young children will be useful in developing Lesotho's pre-school education program and training its teachers.

/CHILD REARING/ - /PRESCHOOL EDUCATION/ /SOCIALIZATION/ /EDUCATIONAL PLANNING/
$30800 12 months
-INSTITUTE FOR SOUTHERN AFRICAN STUDIES OF THE NATIONAL UNIVERSITY OF LESOTHO, MASERU, LS

83-0173 (COMM)
TRAINING COURSE ON TELEVISED DOCUMENTARY PRODUCTION

In Africa, as elsewhere, television has become an effective medium for popularizing scientific and technological concepts. This project consists of a three-week training course aimed at enhancing the skills of journalists from the Congo, the Ivory Coast, Guinea, Niger, Senegal and Zaire in presenting results of scientific research in the form of television documentaries. The course will cover audiovisual, interviewing, script writing, and editing techniques. For practice, the participants will produce documentaries about three IDRC projects in Senegal.

/TELEVISION/ - /SCIENCE/ /TECHNOLOGY/ /INFORMATION DISSEMINATION/
$36530 6 months
-ASSOCIATION INTERINSTITUTIONNELLE POUR LA COMMUNICATION, DAKAR, SN

83-0174 (SS)
POSTGRADUATE ENGINEERING APPRENTICESHIP SCHEMES IN KENYAN ENTERPRISES

The Kenyan government is concerned with the slow rate of growth of indigenous technological capacity, which it attributes to the diversity of skills required by industry and the rate at which skill requirements change. On the assumption that appropriate skills must be acquired in the workplace, this project will examine the postgraduate training program for mechanical engineers and recommend ways in which it might be improved. It will also review and evaluate current training practices in various firms and industries.

/APPRENTICESHIP/ - /ENGINEERS/ /INDUSTRIAL ENTERPRISES/ /TRAINING PROGRAMMES/ /JOB REQUIREMENTS/
$18800 12 months
-UNIVERSITY OF NAIROBI, NAIROBI, KE

83-0175 (AFNS)
OILSEEDS NETWORK (ETHIOPIA) - PHASE II

Vegetable oils and fats are of great importance in the diet of the peoples of the developing world. During the first phase of this project, a network was set up to link IDRC oilseed improvement projects in Eastern Africa, Sri Lanka and the Indian continent and a Network Advisor was stationed in Ethiopia to work in conjunction with the National Program there. The second phase will allow the Network Advisor to continue to visit network projects in Ethiopia, coordinate visits between scientists, provide information on quarantine requirements and other necessary procedures to obtain and exchange germ plasm, and organize small workshops for researchers involved in oilseed improvement.

/OILSEEDS/ - /ORGANIZATION OF RESEARCH/ /PROJECT MANAGEMENT/
$472600 36 months
-INSTITUTE OF AGRICULTURAL RESEARCH (IAR), ADDIS ABABA, ET

83-0176 (SS)
URBAN MANAGEMENT (KENYA)

The matatu or private taxi, usually an older privately owned car, is a means of low-cost transportation in Nairobi, Kenya. In 1979, IDRC undertook a study on matatus -- how they operate, who uses them, who owns them, and how much income and employment they generate. The project results indicate that the matatu provides an indispensable service to a substantial proportion of the population. This project will update the findings of the matatu study within the broader context of urban management in Nairobi. Results of this project will be disseminated both in Kenya and the region.

/PUBLIC SERVICES/ - /URBANIZATION/ /URBAN TRANSPORT/
$9800 9 months
-MAZINGIRA INSTITUTE, NAIROBI, KE

83-0177 (HS)
ALCOHOLISM (CHILE)

Alcoholism appears to be an important social and economic problem in Chile, affecting 5 percent of the Chilean population over fifteen years of age. Paradoxically, health workers in Chile are only marginally trained in the management of this disease. This project will test a pilot training program for medical interns aimed at improving their attitudes toward and knowledge about alcoholism and its prognosis and treatment. Project results will be used in formulating specific recommendations pertaining to the inclusion of this training program in Chilean medical school curricula.

/ALCOHOLISM/ - /MEDICAL EDUCATION/ /CURRICULUM/ /PHYSICIANS/ /ATTITUDES/
$84700 24 months
-UNIVERSIDAD DE CHILE, SANTIAGO, CL

83-0178 (SPA)
Development Parallels (Canada / LDCs)

It is argued that some of the devices and processes once so effective in developing the Canadian west contain ingredients that could be adapted to advantage by some developing countries. Equally, developing country experience may be of application to the particular problems faced by Canadian native peoples. This project will investigate "development-type" endeavours in the Canadian Prairies, a region which in many ways can be viewed as a developing one, that could provide insights into development efforts in other regions of the world. Researchers will focus on the challenges of living in an arid zone; resource exploitation; and the role of technical innovations and entrepreneurial endeavours in development.

/economic and social development/ /technological change/ /arid zone/ /resources exploitation/ /innovations/
$116000   36 months
-University of Regina. Canadian Plains Research Centre, Regina, Saskatchewan, CA

83-0179 (SS)
FERTILITY AND DIFFERENTIAL MORTALITY (SENEGAL)

Senegal has collected a considerable amount of data on fertility patterns and child mortality through a nation-wide household survey. For this data to be of use in social and economic planning, however, it must be processed and analyzed. This project will allow for the training of two Senegalese demographers in multi-variable analysis and other techniques of data processing and modelling.

/FERTILITY/ - /INFANT MORTALITY/
$97500   24 months
-DIRECTION DE LA STATISTIQUE, DAKAR, SN

83-0180 (SS)
DETERMINANTS OF FERTILITY (UGANDA)

Uganda is characterized by one of the highest rates of fertility in Africa. The government of Uganda is supportive of family planning, but limited funds and the lack of information on the determinants of fertility has hampered the success of family planning programs. Recognizing the importance of undertaking basic demographic research in Uganda, a team of researchers at Makerere University in Kampala will collect basic information on the levels, trends and determinants of fertility in the Ankole area of Uganda. Ankole has been chosen as the site of this project because it is a typical rural area in which people are engaged mainly in subsistence agriculture, and it exhibits a particularly high level of fertility. This project will strengthen research capacity in the population field in Uganda and provide a useful source of data for policy planning.

/FERTILITY/
$153800   30 months
-MAKERERE UNIVERSITY, KAMPALA, UG

83-0181 (SS)
PARLIAMENT IN PERU: STRUCTURE AND FUNCTION (PERU)

The present government of Peru, (1980-1985), was established under a constitution that allows the president, the Senate, and the House of Representatives -- the principal legislative and review bodies in the policymaking process -- to be elected directly by the population. There is now a growing consensus, however, that the effectiveness of parliament could be improved. As a first step toward its eventual reform, this project will fund a study of parliament using social science techniques. Researchers will examine the structure and performance of the two houses in order to propose ways in which the effectiveness of the policymaking process can be enhanced.

/PARLIAMENT/ - /PARLIAMENTARY PROCEDURE/ /DECISION MAKING/
$30000 9 months
-UNIVERSIDAD DEL PACIFICO, LIMA, PE

83-0182 (AFNS)
STRIGA (UPPER VOLTA) III

Striga is a pernicious weed that attacks sorghum and millet, reducing yields in several regions of Africa. In the first two phases of this project, funds were provided to ICRISAT (International Crops Research Institute for the Semi-Arid Tropics) for a plant breeder to breed sorghum and millet for striga resistance in Upper Volta. The research conducted by ICRISAT has produced a number of high and stable yielding, striga-resistant varieties of sorghum. Phase III will continue work on breeding for resistance to striga in sorghum and millet. Researchers will study striga behaviour in relation to soil moisture, fertilizer, rainfall, host varieties, and other agronomic methods in order to develop integrated striga control practices.

/WEED CONTROL/ - /SORGHUM/ /MILLET/ /PLANT BREEDING/ /GENETIC IMPROVEMENT/ /CULTIVATION PRACTICES/
$300000 36 months
-INTERNATIONAL CROPS RESEARCH INSTITUTE FOR THE SEMI-ARID TROPICS (ICRISAT), ANDHRA PRADESH, IN

83-0183 (SS)
URBAN SERVICES MANAGEMENT (NIGERIA)

Since Nigeria achieved independence in 1960, rapid urbanization has widened the gap between supply and demand in a variety of urban services. Both the quality and quantity of basic services in the major urban centres have deteriorated. There has not been, however, any systematic appraisal of how the supply of and demand for basic urban services relates to population growth. This project will examine the financing and management of water supply, power (electricity) supply, and solid waste disposal in six cities in Nigeria and will evaluate the efficiency and effectiveness of these services. On the basis of the study findings, the researchers will make policy recommendations with the view to improving the supply and management of urban services.

/PUBLIC SERVICES/ - /URBANIZATION/ /EVALUATION/ /ADMINISTRATIVE ASPECTS/ /DECENTRALIZATION/
$64500 18 months
-NIGERIAN INSTITUTE OF SOCIAL AND ECONOMIC RESEARCH (NISER), IBADAN, NG

83-0184 (SS)

SOCIAL AWARENESS AND RURAL DEVELOPMENT (COLOMBIA) - PHASE II

The objective of phase I of this project was to write a history of the San Jorge River Basin in Colombia which could be used by local teachers, priests, peasant organizations and others as an instrument for regional development and change. Phase I generated a large volume of information on the social and economic development of the region, including the fact that the peasants do not rely entirely on the marshland cultivation system for their livelihood, but also keep cattle in the dry savannah areas of Sinu. The combined use of marshland and savannah resources constitutes a single agricultural system and will be studied in phase II. Researchers will examine the farming practices of the peasants of the Sinu and San Jorge regions, as well as the land tenure patterns within and between the two areas.

/RURAL DEVELOPMENT/ - /LAND USE/ /LAND TENURE/ /PEASANTS/ /POLITICAL DEVELOPMENT/ /SOCIAL PARTICIPATION/ /PEASANT MOVEMENTS/
$55500   16 months
-FUNDACION PUNTA DE LANZA, BOGOTA, CO

83-0185 (SS)

THE ROLE OF WOMEN IN URUGUAY; RESEARCH PROGRAM SUPPORT (URUGUAY)

Women have begun to play an increasingly important role in Uruguay's economic life and therefore in its development. Female labour force participation has increased in Uruguay, as a result of the decline of the economy. However, women in general receive low wages and work under difficult conditions. With a view to raising society's awareness of the role and condition of women, this project will support meetings and research on five themes; women and the labour force; family and employment; education and employment; fertility and birth control; and the role and perception of women in Uruguay.

/WOMEN/ - /FEMALE MANPOWER/ /EMPLOYMENT OPPORTUNITIES/ /ACCESS TO EDUCATION/ /CONTRACEPTION/ /SOCIAL ROLE/ /SOCIAL STATUS/ /WOMEN'S RIGHTS/
$58200   24 months
-CENTRO DE INFORMACIONES Y ESTUDIOS DEL URUGUAY (CIESU), MONTEVIDEO, UY

83-0186 (SS)

COMMUNITY PARTICIPATION AND COMMUNICATION TECHNOLOGIES (COLOMBIA)

It is generally acknowledged that broadcasting is a powerful medium of communication and can play a crucial role in national development. New technologies such as videotape systems, cassettes, and hand-held cameras, have made it possible for greater numbers of individuals to take part in the development of media programming. But it is questionable whether such an increase in access to media actually occurs. The objective of this project is to examine the regulations, technologies, and financial and human resources available in Colombia which might encourage greater access to new media technologies; and, on the basis of this information, to develop appropriate policy guidelines, strategies, and manuals to increase community utilization of such technologies. In addition, training booklets will be developed to teach community organizations how to express their cultural and educational needs through television.

/TELEVISION/ - /SOCIAL PARTICIPATION/ /COMMUNITY DEVELOPMENT/ /policy making/ /LEGAL ASPECTS/
$69600   11 months
-ASOCIACION COLOMBIANA DE INVESTIGADORES DE LA COMMUNICACION SOCIAL, BOGOTA, CO

83-0187 (SS)
EVALUATION OF COMPREHENSIVE RURAL EDUCATION (BRAZIL) - PHASE II

The Integrated System of Rural Education (SIER) provides a basic village school, an intermediary school, and a centre of rural education in a severely depressed area in the Northeast Region of Brazil. With the participation of the local communities, Phase I of this project developed an evaluation system to assess the operation of the program. Now, the Brazilian government proposes to extend the evaluation system to other programs and projects. The second phase of this project will apply the evaluation design developed during the first phase; train government officials in its implementation; and design an evaluation plan for the Basic Education Program currently being developed elsewhere in Brazil.

/EDUCATIONAL INNOVATIONS/ - /RURAL SCHOOLS/ /EVALUATION/ /PARTICIPATORY RESEARCH/ /BASIC EDUCATION/ /RURAL AREAS/
$81800 12 months
-INSTITUTO INTERAMERICANO DE CIENCIAS AGRICOLAS (IICA), SAN JOSE, CR

83-0188 (HS)
PROLACTIN RESPONSE/LATEX NIPPLE SHIELD (THAILAND)

Breast-feeding is of particular importance for the health of mothers and young children in developing countries. The most important single variable in the nutritional value of human milk is its fat content. To measure the caloric content of breast milk it must be sampled continuously throughout a feeding. A new measuring system has recently become available in Thailand for the accurate assessment of breast milk quantity and quality. It consists of a thin, soft latex nipple shield, with a built-in sampling line and low meter. Data from previous studies have indicated that suckling patterns are not affected by use of this device. This project will test, on breast-feeding mothers in Thailand, whether use of the latex nipple shield interferes with breast milk production or with the normal physiology of lactation.

/breast feeding/ - /HORMONES/
$30040 9 months
-CHIANG MAI UNIVERSITY, CHIANG MAI, TH

83-0189 (SS)
THE STATUS OF SCIENCE AND TECHNOLOGY IN BOTSWANA

Science and technology activities in Botswana are carried out in a number of institutions, generally working in isolation from one another. To help these institutions to coordinate their efforts, this project will take inventory of science and technology resources and activities in Botswana; identify the extent to which the government's priorities for development are assisted or hindered by national scientific and technological capability; and propose a design for a national science and technology information system.

/SCIENCE/ - /TECHNOLOGY/ /RESOURCES ALLOCATION/ /SCIENCE POLICY/
$21000 12 months
-BOTSWANA TECHNOLOGY CENTRE, GABORONE, BW

83-0190 (SS)
TECHNOLOGY TRANSFER CONTRACTS (GHANA)

Technology transfer agreements are often weighted in favour of the supplier of the technology, particularly when the supplier is from a developed country and the recipient is a developing country. There is considerable evidence that Ghana, heavily reliant on imported technology in all its forms, has had little or no success in using its experience with foreign suppliers to expand its technological capability. This project will investigate the extent to which Ghana's contracts for technology purchases permit or restrict the transfer of technology. Researchers will examine the record of Ghanaian public enterprises in past negotiations for foreign technology in order to determine how their negotiating position can be strengthened.

/TECHNOLOGY TRANSFER/ - /ECONOMIC AGREEMENTS/ /PUBLIC ENTERPRISES/ /LEGAL ASPECTS/
$25300 12 months
-GHANA INVESTMENTS CENTRE, ACCRA, GH

83-0191 (FAD)
PARTICIPATORY TRAINING APPROACH TO RURAL COMMUNITY DEVELOPMENT (BANGLADESH)

The Village Education Resource Center (VERC), Bangladesh, was founded in 1977 as a non-profit, national voluntary organization. One of VERC's aims is to develop self-reliance among village leaders and village people by training them for village action programs using the "participatory approach". This project will enable VERC to train people at the thana or municipality level in five centres located in various parts of the country. Researchers will implement, monitor, evaluate, and document the "participatory" method of training.

/COMMUNITY DEVELOPMENT/ - /TRAINING/ /LEADERSHIP/ /SOCIAL PARTICIPATION/ /NON-FORMAL EDUCATION/
$58467 36 months
-VILLAGE EDUCATION RESOURCE CENTER, DHAKA, BD

83-0193 (HS)
WOMEN IN HANDPUMP TECHNOLOGY (SRI LANKA)

In many developing countries where people rely on handpumps for potable water, not enough attention has been given to developing and implementing village level maintenance programs. As a result, when pumping systems break down, they often remain unrepaired due to the absence of spare parts and trained local personnel. The Sarvodaya Shramadana Movement, a national non-governmental organization in Sri Lanka, recognized this problem and field-tested a locally manufactured, low-cost, PVC handpump which could be maintained by the villagers themselves. This project will organize village women into income-generating cottage industries for the manufacture and assembly of the various handpump components; the women will also be trained to monitor and maintain the Sarvodaya handpump in their own villages.

/PUMPS/ - /MAINTENANCE AND REPAIR/ /WOMEN/ /DRILLING/ /WELLS/
$75015 24 months
-SARVODAYA SHRAMADANA MOVEMENT OF SRI LANKA INC., MORATUWA, LK

83-0194 (AFNS)
OIL PALM PPS SURVEY (THAILAND)

The price of palm oil has risen steeply in Southern Thailand over the past few years, stimulating increased production of oil palm. Local processing capacity, however, has not kept pace with increased production and the small growers in particular are forced to wait, sell to traders at cut prices, or take their crop to the limited village processing centres. Since palm oil quality is dramatically lowered during the 72 hour delay between harvest and processing, an efficient system of transport and processing is needed to enable small growers to obtain maximum returns on their oil palm fruit. This project will describe and analyze the present post-production and pricing systems for oil palm and identify the research needed to develop and improve small-scale palm oil production methods.

/PALM OIL/ - /post-harvest systems/ /FOOD PROCESSING/ /MARKETING/ /COST ANALYSIS/ /EFFICIENCY/
$8900 12 months
-PRINCE OF SONGKLA UNIVERSITY, HAAD YAI, TH

83-0195 (SS)
UPLAND RESOURCE DEVELOPMENT STUDIES II (PHILIPPINES)

This is the second project in an informal network of projects on upland resource development in the Philippines. This research focuses on economic exchanges between two groups: the Mangyans, (indigenous uplanders on the island of Mindoro); and lowlanders and migrant uplanders. There is a lack of information on such exchanges even though they are the primary points of interaction between the two groups. In particular, the researchers will study commodity and labour exchanges, between Mangyan households and migrant uplanders and lowlanders, in order to determine who benefits from them, how livelihoods are affected, and what impact such exchanges have upon the stability of upland resource environments.

/LABOUR MIGRATIONS/ - /ETHNIC GROUPS/ /MIGRANT WORKERS/ /MARKETING/
$42600 15 months
-DE LA SALLE UNIVERSITY, MANILA, PH

83-0196 (HS)
RUBELLA (MALAYSIA)

Rubella (German Measles), when acquired after birth, is usually a harmless viral infection. By contrast, the consequences to the fetus can be disastrous, including deafness, cataracts, glaucoma, congenital heart disease and mental retardation. It can be prevented, however, by ensuring that all women of child-bearing age have been previously immunized against rubella. Vaccination against rubella is generally provided in industrialized nations; but this is not the case in developing countries. The Ministry of Health of Malaysia is considering immunizing all Malaysian girls when they reach the age of menarche. This project will help the government to formulate its immunization policy by collecting data on the incidence of rubella and congenital rubella syndrome in Penang state.

/MEASLES/ - /EPIDEMIOLOGY/ /VACCINATION/
$71590 15 months
-UNIVERSITI SAINS MALAYSIA, PENANG, MY

83-0197 (SS)
TECHNOLOGY ASSIMILATION AND ADAPTATION IN STEEL AND ALUMINIUM (VENEZUELA)

The central issue in the building of technological capability is whether local personnel are developing basic design and operational abilities or simple acquiring routine maintenance skills in relation to the imported technology. This project will examine the experiences of the Venezuelan aluminium and steel industries in the acquisition of imported technologies, concentrating on the learning processes through which technological capability is acquired. The project will attempt to identify promising training methods and to show how factors of an organizational nature are of vital importance in the assimilation of technical know-how.

/TECHNOLOGY TRANSFER/ - /ALUMINIUM INDUSTRY/ /IRON AND STEEL INDUSTRY/ /TECHNOLOGICAL CHANGE/ /LEARNING/ /IN-PLANT TRAINING/ /DECISION MAKING/
$82000 18 months
-ASOCIACION VENEZOLANA DE TECNOLOGIA (VENTEC), CARACAS, VE

83-0198 (SS)
THE IMPACT OF COMPUTER TECHNOLOGY (CHILE)

The first computer was introduced into Chile in 1962 and by 1981 there were an estimated 1,200 installations in the country. This project aims to describe and analyze the impact of computers on education, employment, and professional skills in a number of service and manufacturing organizations. Approximately six case studies will be produced.

/COMPUTERS/ - /TECHNOLOGICAL CHANGE/ /SKILLED WORKERS/ /TECHNICAL EDUCATION/ /OCCUPATIONAL STRUCTURE/
$96800 18 months
-CENTRO DE ESTUDIOS SOCIALES, SANTIAGO, CL

83-0199 (AFNS)
ROOT CROPS (SRI LANKA) - PHASE II

Rice is the traditional food crop of Sri Lanka; however, it is expensive to produce and the country is looking for alternative staples. The main objective of phase I of this project was to increase the production of cassava and sweet potatoes through a selection and improvement program. Superior varieties of cassava and sweet potato identified in phase I are being multiplied on government farms, and distributed to farmers. In phase II researchers will continue to develop improved agronomic practices and screen varieties of cassava and sweet potato for early maturing types with good eating quality and storage life. Research will be expanded to include yams and aroids, important root crops in home gardens.

/ROOT CROPS/ - /CASSAVA/ /SWEET POTATOES/ /GENETIC IMPROVEMENT/ /PLANT BREEDING/ /HYBRIDIZATION/ /CULTIVATION PRACTICES/
$287400 60 months
-DEPARTMENT OF AGRICULTURE, PERADENIYA, LK

83-0200 (AFNS)
MARICULTURE (CHILE)

Chiloe, an island in the southern part of Chile, is considered to be the country's reservoir of shellfish, providing approximately one quarter of the national mollusc production. Indiscriminate harvesting has nearly exhausted the traditional shellfish grounds around the island. In recent years, a lack of support and technical expertise has caused a steady decline in mariculture activities. Through this project research will be undertaken to increase the production of shellfish in the Chiloe region of Chile. Specifically, researchers will develop improved mariculture methods for three shellfish species: small mussel, giant mussel, and Chilean oyster; develop techniques which will ensure a steady supply of seed for the shellfish farmers; and provide technical advice to rural shellfish farmers on the methods and techniques of mariculture of the species under study.

/SHELLFISH/ - /AQUACULTURE/ /FISH PRODUCTION/ /TECHNICAL ASPECTS/
$362000 36 months
-UNIVERSIDAD AUSTRAL DE CHILE, VALDIVIA, CL

83-0202 (SS)
EXPORT PRICE AND TECHNOLOGY SUBSIDIES (TOGO)

In Togo, commodity prices paid by the government to the producers are fixed at a very low level, with the government maintaining that it is in a better position than the producers to invest export profits. However, low prices reduce incentive resulting in reduced productivity, low returns to farmers, and, ultimately, decreased government revenues. To compensate in part for these negative effects, the government subsidizes the purchase of equipment used for the production of export crops, but shrinking revenues are making this increasingly difficult. Researchers will evaluate the existing policies and provide the Government of Togo with economic data on their effects with respect to the production of three export crops, coffee, cotton, and cocoa. The purpose is to help the government to re-evaluate its current policies and to improve production incentives.

/PRICE POLICY/ - /COMMODITY PRICES/ /ECONOMIC RESEARCH/ /AGRICULTURAL PRODUCTION/ /INDUSTRIAL CROPS/
$36800 24 months
-UNIVERSITE DU BENIN, LOME, TG

83-0203 (HS)
TOILET USAGE (PHILIPPINES)

In 1980, approximately three-quarters of the people in developing countries had no sanitation facilities, particularly in the rural areas. Past efforts to improve sanitary conditions have often failed because the local villagers did not accept or could not understand the need to use and maintain sanitation facilities. This project will seek information on the knowledge, attitudes, and practices of ethnic groups residing in the Benguet Province of the Philippines with respect to the use or nonuse of latrine facilities. Based on the findings, the researchers will implement a health education program, and promote the construction, use and maintenance of locally-appropriate latrine models.

/SANITATION/ - /HYGIENE/ /ATTITUDES/ /BEHAVIOUR/ /SANITATION SERVICES/ /HEALTH EDUCATION/
$32670 24 months
-MOUNTAIN STATE AGRICULTURAL COLLEGE, BENGUET, PH

83-0205 (HS)
VILLAGE HANDPUMPS (PHILIPPINES)

In the Philippines, approximately 70 percent of the country's rural population are without access to safe water sources. To provide adequate and safe water supplies to rural populations, pumping devices must be used which are reliable and easy to repair. IDRC-supported projects have demonstrated that a low-cost locally manufactured pump could function adequately under field conditions for a period of two or more years. This project will attempt to demonstrate that this technology can be transferred to the village level and that the villagers themselves can ensure the continued functioning of the pump if given sufficient training, experience and resources. Local village groups in the Philippines will be trained to install, operate and maintain their own pumps.

/PUMPS/ - /MAINTENANCE AND REPAIR/ /COMMUNITY DEVELOPMENT/
$83840 24 months
-PHILIPPINES BUSINESS FOR SOCIAL PROGRESS, MANILA, PH

83-0206 (AFNS)
FUELWOOD PLANTATIONS (MALAWI) - PHASE II

There is a shortage of wood in Malawi because so much of the land is under cultivation. Phase I of this project sought to provide the rural population with an adequate and continuous supply of wood for fuel and construction by identifying and evaluating suitable tree species for afforestation. A total of 93 species trials were established and valuable information on planting techniques and management of small-scale plantations was obtained. In phase II, researchers will determine the various silvicultural zones of Malawi; continue to identify the best adapted and most productive tree species; and further investigate establishment and management techniques for small-scale plantations. Researchers will also determine the most appropriate species to be grown in association with food crops.

/FUELWOOD/ - /SILVICULTURE/ /TREES/ /AGROFORESTRY/ /SOIL ANALYSIS/ /ARID ZONE/
$377200 36 months
-MINISTRY OF FORESTRY, LILONGWE, MW

83-0207 (SS)
SCIENTIFIC COMMUNITIES IN CHILE: CASE STUDIES (CHILE)

Although governments and public institutions continue to express their confidence in the value of science and its results, there is evidence from all countries that funds for civilian research are declining. In Chile, the education system and market forces have determined national and scientific priorities. Recent changes in the education system have reduced access to universities and encouraged those disciplines and professions that have a demonstrable market value. This project will examine the history, development, and role of two scientific communities - made up of sociologists and biologists, respectively - in Chile since 1970; and undertake a survey of scientists in these disciplines to build a profile of scientific behaviour.

/SCIENTISTS/ - /BIOLOGY/ /SOCIOLOGY/ /SCIENCE POLICY/
$98600 24 months
-FACULTAD LATINOAMERICANA DE CIENCIAS SOCIALES (FLACSO), SANTIAGO, CL

83-0208 (SS)
EDUCATIONAL RESEARCH AWARDS (BOTSWANA, LESOTHO, SWAZILAND)

The environment for educational research in the southern African nations of Botswana, Lesotho, and Swaziland is a particularly precarious one. Funds are scarce and researchers work in isolation, in small and generally weak institutions. They may be well-trained in an academic sense, but have few opportunities to gain field experience and this limits their potential contribution to development. This project will provide research grants, to be awarded in annual competitions, to senior researchers in independent work and junior researchers in studies supervised by their more experienced colleagues. Research to be undertaken will focus on specific problems confronting the education systems of the three participating countries; will be field oriented; and will encourage collaboration among researchers with different levels of experience and professional status.

/EDUCATIONAL RESEARCH/ - /ORGANIZATION OF RESEARCH/ /RESEARCH FELLOWSHIPS/
$162700 24 months
-NATIONAL UNIVERSITY OF LESOTHO, MASERU, LS

83-0209 (AFNS)
ANDEAN CROP PROCESSING (PERU)

The people of the high Andes of South America have the lowest incomes and the poorest nutrition in the Andean region. Since 1979, IDRC has supported farming systems research in eight Andean communities of Peru. This project will develop improved techniques and systems for the harvesting, preserving, and processing native grains and tubers in selected Andean farming communities. Researchers will survey and document post-production activities and identify problems; identify local marketing bottle-necks and opportunities for Andean crop products; and develop and test equipment and procedures for improving post-production activities.

/post-harvest systems/ - /HARVESTING/ /FOOD PROCESSING/ /FOOD PRESERVATION/ /MARKETING/
$242800 36 months
-INSTITUTO INTERAMERICANO DE COOPERACION PARA LA AGRICULTURA (IICA), LIMA, PE

83-0210 (AFNS)
RURAL FRUIT PROCESSING (COLOMBIA)

Fruits grown on small farms in the North Cauca region of Colombia are currently sold to the fresh produce market at the time of harvest or consumed at home; there is no commercial fruit-processing plant in the area. This project will enable the Foundation for the Application and Teaching of Sciences (FUNDAEC) to examine the feasibility of establishing a community fruit juice plant; develop and test a simple processing plant for producing fruit juices; and test local market acceptance of the products.

/FRUITS/ - /FOOD PROCESSING/ /FRUIT JUICES/ /MARKETING/
$72400 24 months
-FUNDACION PARA LA APLICACION Y LA ENSENANZA DE LAS CIENCIAS (FUNDAEC), CALI, CO

83-0211 (AFNS)
LENTIL/CHICKPEA IMPROVEMENT AND MECHANIZATION (JORDAN) - PHASE II

Lentils and chickpeas are a staple food and an important source of protein in Jordan, but low yields, due to insects, diseases, and poor harvesting techniques, have forced the country to import much of its requirement. During the first phase of this project, a plant breeding program was established for lentils and chickpeas with a view to increasing production of these crops. Considerable progress has been made in identifying Ascochyta blight-resistant chickpeas, which will make possible greatly increased yields from winter plantings. In phase II, researchers will continue to breed improved varieties of lentils and chickpeas; adapt mechanical harvesting technology to farm conditions; and develop agronomic practices (i.e. fertilizer requirements, planting dates and weed control) suitable for new varieties adapted to different ecological conditions.

/LENTILS/ - /CHICKPEAS/ /GENETIC IMPROVEMENT/ /PLANT BREEDING/ /CULTIVATION PRACTICES/ /CULTIVATION SYSTEMS/ /HARVESTING/ /AGRICULTURAL MACHINERY/ /post-harvest systems/
$308100 36 months
-UNIVERSITY OF JORDAN, AMMAN, JO

83-0212 (SPA CP)
Solar Assisted Underground Heat Storage and Support System

The Government of Turkey has increased its allocation to energy research in order to reduce the country's dependence on imported energy - currently more than 53 percent of total consumption. Research into renewable resources, particularly solar energy, constitutes an important part of this endeavour. This project will examine the feasibility of heating buildings in Turkey using solar energy systems developed by the Brace Research Institute of McGill University in Montreal, Canada. The site-built systems consist of solar collectors on south-facing walls, with wall-and-ceiling heat storage systems.

/solar energy/ /heating/ /engineering design/
$93000 24 months
-McGill University. Brace Research Institute, Ste-Anne-de-Bellevue, Québec, CA
-University Dokuz Eylul. Department of Mechanical Engineering, Izmir, TR
-International Development Research Centre (IDRC), Ottawa, CA

83-0213 (HS)
HEPATITIS B (MALAYSIA)

Hepatitis B Virus (HBV) is endemic throughout the world and occurs with little seasonal variation. In Malaysia, 50 percent of blood donors have evidence of previous or current HBV infection. It is estimated that 5.5 percent of this group are carriers of HBV. Although vaccines against HBV are available commercially, mass vaccination campaigns are not feasible at present. This project will collect data on the rates of HBV infection in selected groups of pregnant women and their newborn; children aged 1 to 10 years; blood donors and blood transfusion recipients. This information will then be used to identify the population groups in Malaysia who would most benefit from the vaccine.

/INFECTIOUS DISEASES/ - /EPIDEMIOLOGY/ /VACCINES/
$75120 24 months
-UNIVERSITI SAINS MALAYSIA, PENANG, MY

83-0214 (HS)
TRADITIONAL MEDICINE (TANZANIA)

Utilization of traditional healers and traditional medicine remains widespread in most developing countries, particularly in rural areas. The government of Tanzania has officially recognized the potential contribution of traditional healers, and has established a Traditional Medicine Research Unit within the University of Dar es Salaam to conduct studies in this area. This project will enable the Unit to examine the relationship between the traditional and the formal health systems by means of a survey of the knowledge and attitudes of traditional healers and birth attendants towards modern health practices and health workers; the attitudes of rural people towards traditional medicine and traditional medical practitioners; and the extent to which the rural population relies on traditional healers for medical care.

/TRADITIONAL MEDICINE/ - /HEALTH SERVICES/ /health manpower/ /ATTITUDES/ /RURAL AREAS/
$133390 18 months
-MUHIMBILI MEDICAL CENTRE, DAR ES SALAAM, TZ

83-0215 (AFNS)
PEAS AND MAIZE IMPROVEMENT (BURUNDI) III

The majority of the population in Burundi grow and consume maize. Inhabitants of high altitude areas also produce peas. The objective of this project is to continue research on high yield and disease resistant varieties of these crops for maximum production under growing conditions. A further objective is to train researchers to continue studies on crop varieties and cultivation practices.

/MAIZE/ - /LEGUMINOSAE/ /GENETIC IMPROVEMENT/ /CULTIVATION PRACTICES/
$519000 36 months
-MINISTRY OF AGRICULTURE, BREEDING AND RURAL DEVELOPMENT, BUJUMBRA, BI

83-0216 (SS)
RICE PRODUCTION AND MARKETING (TANZANIA)

Despite some recent policy changes and a few signs of improvement in international economic conditions, the Tanzanian economy has continued to experience grave difficulties. Faced with severe economic pressures, Tanzania has focused many of its recovery efforts on the agricultural sector, particularly rice production. This project will study the social, economic and institutional constraints facing small-holder rice producers in Ulanga, an isolated but potentially very productive rice-growing area in the south-central part of Tanzania. Researchers will survey peasant households to understand the marketing and production problems they face; examine the division of labour within households; and study the effects of labour migration and remittances on agricultural productivity.

/RICE/ - /AGRICULTURAL PRODUCTION/ /AGRICULTURAL MECHANIZATION/ /POST-HARVEST SYSTEMS/ /LABOUR MIGRATIONS/ /REMITTANCES/ /MARKETING/
$78000 18 months
-UNIVERSITY OF DAR ES SALAAM, MOROGORO, TZ

83-0217 (AFNS)
TROPICAL PASTURES NETWORK (COLOMBIA) - PHASE II

Research to improve animal production in Latin America is hampered by a lack of knowledge on available pasture species and their performance in different environments. In phase I of this project the International Centre for Tropical Agriculture (CIAT) in Colombia and IDRC collaborated to increase the availability of germ plasm to national research programs for the development of improved forage species. Agronomic trials, which included the evaluation of grasses and legumes, and grazing trials, which used those species with the highest potential, were undertaken in the first phase. During phase II, researchers will continue these activities and conduct on-farm evaluations of animal production systems based on improved pastures. Selected researchers from national institutions will be trained in pasture seed production techniques.

/FORAGE CROPS/ - /PASTURES/ /GENETIC IMPROVEMENT/ /ANIMAL PRODUCTION/
/ON-FARM RESEARCH/
$637800   48 months
-CENTRO INTERNACIONAL DE AGRICULTURA TROPICAL (CIAT), CALI, CO

83-0218 (AFNS)
CROP-LIVESTOCK SYSTEMS (PHILIPPINES/IRRI)

In 1971, IDRC funded a multiple cropping project at the International Rice Research Institute (IRRI). Since then, with continued support from IDRC and other funding agencies, and increasing assistance from national agricultural research programs, cropping systems research evolved into the Asian Cropping Systems Network (ACSN). The ACSN consists of 12 countries collaborating to improve cropping systems and to develop improved farming technologies. This project is the start of a new phase of research in the ACSN. Livestock, which are an important component in many Asian farms, will be integrated into the research process already developed for cropping systems. The project will support an exchange of information on crop and livestock production systems among scientists in Asia and promote collaborative research.

/FARMING SYSTEMS/ - /FOOD PRODUCTION/ /LIVESTOCK/ /ANIMAL PRODUCTION/
/ORGANIZATION OF RESEARCH/
$658200   36 months
-INTERNATIONAL RICE RESEARCH INSTITUTE (IRRI), MANILA, PH

83-0219 (AFNS)
CROP-LIVESTOCK SYSTEMS (THAILAND)

Over the past ten years, considerable research on crops, cropping systems, forage, and animal husbandry has been carried out in northeast Thailand, but the impact on farming has been negligible. This project will endeavour to combine past research results to develop systems and technologies that are suited to the environment and the needs of the farmers. Specifically, researchers will develop appropriate integrated crop-livestock systems; evaluate the effects of by-product feeds on animal production; compare the labour, cash and energy inputs required by traditional and new systems; and compare new and traditional systems in terms of productivity, efficiency, and farmers' preference.

/FARMING SYSTEMS/ - /ANIMAL PRODUCTION/ /FORAGE CROPS/ /BY-PRODUCTS/
/FEED/ /CULTIVATION SYSTEMS/
$368500   36 months
-MINISTRY OF AGRICULTURE AND COOPERATIVES, BANGKOK, TH

83-0220 (SS)
INCOME DISTRIBUTION AND RURAL EDUCATION (COLOMBIA)

In 1979, the Foundation for Higher Education and Development (FEDESARROLLO) conducted a survey on rural education and development in Colombia. This project will analyze the data collected through this survey in an effort to understand the relationship between the distribution of income and education in rural Colombia. Specifically, researchers will measure rural distribution of income and its major determinants; measure the effect of changes in education on the level and distribution of income; conduct statistical tests which compare the role of education (formal and non-formal) with other important factors, such as land distribution and access to credit, in determining income distribution; and make recommendations on government policies affecting rural income distribution.

/INCOME DISTRIBUTION/ - /EDUCATIONAL POLICY/ /RURAL AREAS/ /EDUCATIONAL LEVEL/
$78500   12 months
-FUNDACION PARA LA EDUCACION SUPERIOR Y EL DESARROLLO (FEDESARROLLO), BOGOTA, CO

83-0221 (SS)
ARTISANAL FISHERIES (CHILE)

In Chile, artisanal coastal fishing communities are among the poorest in the country but very little information about them is available. This project will examine the fishing communities of Coliumo, Tumbes, Lo Rojas, Tubul and Isla St. Maria in order to better ascertain their potential for development. Information will be collected on the type and quantity of fishes caught; fishermen's attitudes towards innovation; fishing organizations; training; and credit and marketing channels used by artisanal fishermen. Researchers will also evaluate the possibilities for introducing new fishing techniques and new marketing systems.

/COASTAL FISHING/ /FISHERY INDUSTRY/ /FISHERY DEVELOPMENT/ /FISHERY RESOURCES/
$66935   12 months
-UNIVERSIDAD DE CONCEPCION, CONCEPCION, CL

83-0223 (SS)
MAIZE MARKETING AND EXTENSION (SIERRA LEONE)

In Sierra Leone, the demand for maize has grown significantly in recent years. While some research has been done on the potential for increased production, little is known about the institutional and marketing factors involved in the industry. This project will examine the role of maize in local farming systems -- focusing particularly on marketing, pricing and agricultural extension as factors influencing the level of domestic production -- and assess its potential as livestock feed.

/MAIZE/ - /AGRICULTURAL PRODUCTION/ /CULTIVATION PRACTICES/ /MARKETING/ /AGRICULTURAL EXTENSION/ /FEED/
$60600   24 months
-NJALA UNIVERSITY COLLEGE, NJALA, SL

83-0224 (SS)
FRUIT CROPS, RIO NEGRO (ARGENTINA)

The Rio Negro Valley of Argentina has for many years specialized in the production and export of fruit. Recently, for reasons which remain unclear, the valley has had increasing difficulty selling its products in the important markets of Europe, Brazil and the United States. This project will investigate the fruit industry, through production, processing, and distribution, in order to determine the causes of its decline. By examining the performance of the different enterprises within the production/marketing chain, researchers hope to find the key to improving the efficiency and competitiveness of the fruit industry in the valley.

/FRUITS/ - /FOOD PRODUCTION/ /PRODUCTION FUNCTIONS/ /MARKETING/ /BUSINESS CYCLE/ /PROFITABILITY/ /policy making/
$52000 18 months
-UNIVERSIDAD NACIONAL DE COMAHUE, NEUQUE, AR

83-0225 (AFNS)
FRUIT AND VEGETABLE HANDLING (THAILAND)

Large quantities of fruit and vegetables are wasted in many tropical countries due to rapid postharvest deterioration resulting from high heat and humidity and from poor handling, transport, and storage practices. The Thailand Institute of Scientific and Technological Research (TISTR) has identified several potential methods to improve the handling of fruits and vegetables by growers. This project will assess fungicidal and pre-cooling treatments developed by TISTR. Researchers will also assess the effects of transportation systems on produce quality, and will conduct a cost/benefit analysis of postharvest technologies.

/FOOD PRESERVATION/ - /HANDLING/ /DAMAGE/ /STORAGE/ /FRUITS/ /VEGETABLES/ /TRANSPORT/
$124300 36 months
-THAILAND INSTITUTE OF SCIENTIFIC AND TECHNOLOGICAL RESEARCH (TISTR), BANGKOK, TH

83-0226 (AFNS)
SOYBEAN SEEDER (THAILAND) - PHASE II

During phase I, Asian Institute of Technology (AIT) scientists undertook to make significant modifications to a very early soybean seeder design, and to test the seeder on farmers' fields. Results showed a significant reduction in the labour required for seeding. Based on the results of phase I, now researchers propose to test, modify, and evaluate the prototype seeder under rainy-season conditions in Sukhothai province and dry-season conditions in Chiang Mai province. It will also be evaluated and adapted for use with other crops, and demonstrated for farmers.

/AGRICULTURAL MACHINERY/ - /ENGINEERING DESIGN/ /PLANTING/ /SOYBEANS/ /ON-FARM RESEARCH/
$200300 36 months
-ASIAN INSTITUTE OF TECHNOLOGY (AIT), BANGKOK, TH

83-0227 (AFNS)
Three Strata Forage (Indonesia)

In Bali, one of the islands of Indonesia, the cultivation of rice, maize, sorghum, soybean, peanut and cassava is so intensive that no small holder can afford to allocate land exclusively to pasture production. The purpose of this project is to evaluate the biological and economic viability of producing forage from trees, shrubs, and herbaceous pasture species planted in field borders. Researchers will define a production model for food and forages for the semi-arid rainfall areas by evaluating growth and yield of the grass, legume, shrub, tree, and crop components of the system; by measuring the nutritive value of the feed sources produced in the system; and by measuring the growth and feed intake of the cattle raised.

/forage crops/ /feed/ /mixed farming/ /trees/
$216000 60 months
-Udayana State University. Department of Nutrition and Tropical Forage Production, Bali, ID

83-0228 (SS)
CHILD LABOR AND EDUCATION IN RURAL AREAS (COLOMBIA)

Studies from developing countries, seeking to understand causes of school dropout, show that many children leave school because they are needed at home. This is particularly true in the rural areas where poor families must use child labour in agricultural tasks. In Colombia, only 70 percent of urban and 32 percent of rural children complete their primary education. It is estimated that of the 9 million children in Colombia, 1 million are working. In order to shed light on the influence of economic factors on schooling outcomes in rural Colombia, this project will examine the working conditions of children and identify the extent to which child labour affects performance in school.

/CHILD LABOUR/ /SCHOOLING/ /EDUCATIONAL OUTPUT/ /RURAL AREAS/ /WORKING CONDITIONS/ /SCHOOL-COMMUNITY RELATIONSHIPS/
$94400 14 months
-PONTIFICIA UNIVERSIDAD JAVERIANA, BOGOTA, CO

83-0229 (SS)
TEACHER WORKSHOPS: INSTRUCTIONAL STRATEGIES (ARGENTINA)

Teacher "effectiveness" is crucial in the developing countries where for lack of physical and material resources the teacher is often the sole source of knowledge. In Latin America, however, teacher training is often highly academic and unrelated to the needs of the pupil, the teacher, or the community. The purpose of this project is to develop, through workshops, new methods for improving teaching skills and for raising teachers' awareness of their role in the classroom and the community. The participants will be primary school teachers recruited in Rosario, Argentina. The project will determine the extent to which participation in workshops contributes to more effective classroom behaviour and attitudes among the participating teachers.

/TEACHER TRAINING/ - /PRIMARY SCHOOLS/ /TEACHERS/ /ATTITUDES/ /TEACHING METHODS/
$39000 14 months
-CENTRO ROSARIO DE INVESTIGACIONES EN CIENCIAS SOCIALES, ROSARIO, AR

83-0230 (FAD)
TRAINING PROGRAM ON INTEGRATED FISH FARMING (CHINA)

Integrated farming of fish, livestock and crops is a traditional practice in China. It promotes the optimum use of all resources, including agricultural wastes, for the production of food. The Regional Lead Center in Wuxi, China, (RLCC) was established in 1981 to conduct research and training on integrated fish farming for developing countries. This project will provide funds for five trainees from selected countries to attend a four-month training course at RLCC. The program is intended to develop a core of senior technicians needed for planning and implementation of integrated fish farming.

/FARMING SYSTEMS/ - /FISHERY MANAGEMENT/ /AQUACULTURE/ /AGRICULTURAL PRODUCTION/ /AGRICULTURAL WASTES/
$115500 24 months
-REGIONAL LEAD CENTRE IN CHINA (RLCC), WUXI, CN

83-0231 (SS)
INSTITUTIONAL SUPPORT GRANT - GIA

The Grupo de Investigaciones Agrarias (GIA) conducts research on the social and economic aspects of Chilean agriculture and rural life, and coordinates the extension efforts of non-governmental organizations. It also provides a forum for peasant leaders, extension workers, researchers and technical advisers and has traditionally looked after the needs of the small farmer. But the demands on GIA are growing, especially since the sale of land reform lands and the reduction in other collective forms of land ownership has pauperized the small farmer. The purpose of this project is to support the research program of GIA with a three-year institutional grant to help it move from voluntary to professional administration at a time of growing demand for its services.

/RESEARCH PROGRAMMES/ - /AGRICULTURAL DEVELOPMENT/ /APPROPRIATE TECHNOLOGY/ /PEASANTS/
$354750 36 months
-GRUPO DE INVESTIGACIONES AGRARIAS (GIA), ACADEMIA DE HUMANISMO CRISTIANO, SANTIAGO, CL

83-0232 (IS)
LATIN AMERICAN EDUCATION DOCUMENTATION (CIDE/REDUC) - PHASE III

The function of the Chilean Centre for Educational Research and Development (CIDE) is to collect documents of educational research and to see that the results of that research are made available for national educational planning. Phase I of this project enabled the establishment of the Latin American Educational Documentation System (REDUC), to improve the flow of educational information among Latin American countries and between Latin America and the rest of the world. Phase II allowed CIDE to strengthen the general Coordinating Centre of REDUC in Santiago. There are now 15 associated centres in 14 countries participating in REDUC. Phase III will allow CIDE to generate a data base of abstracts of research studies, microcomputer based, within the REDUC network; to establish a training package; and to produce a newsletter as a mechanism for exchanging information within the network.

/EDUCATIONAL RESEARCH/ - /INFORMATION SYSTEMS/ /INFORMATION PROCESSING/
$401000 36 months
-CENTRO DE INVESTIGACION Y DESARROLLO DE LA EDUCACION (CIDE), SANTIAGO, CL

83-0233 (AFNS)
FARMING SYSTEMS RESEARCH (CAMEROON/IITA)

Although Cameroon has a well developed national agricultural research system, adoption of improved varieties and new technologies by small-holders has been slow. The government, with help from the International Institute of Tropical Agriculture (IITA) has decided to strengthen its farming systems research (FSR) capability by establishing a number of teams throughout the country to conduct on-farm research. This project will provide funds for one team to work in the Center-South region of the country around Yaoundé, the capital. The project team will collaborate with teams working elsewhere in the country and encourage regular communication between the farmers and researchers. Seminars and meetings will be organized to inform national scientists and researchers about FSR concepts and methods.

/FARMING SYSTEMS/ - /ORGANIZATION OF RESEARCH/ /ON-FARM RESEARCH/
$527000 36 months
-INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE (IITA), IBADAN, NG
-DELEGATION GENERALE DE LA RECHERCHE SCIENTIFIQUE ET TECHNIQUE, YAOUNDE, CM

83-0234 (AFNS)
VEGETATIVE PROPAGATION (SENEGAL)

Forest resources are important to Senegal because they supply the population with firewood, they reduce the national debt through exports of gum arabic, and they protect the land by maintaining soil fertility. If woody plants can be cultivated to withstand the environmental pressures of drought and high soil salinity they can eventually be mass produced and used in reforestation programmes in the Sahel. In this project, young African scientists will be trained to use in vitro and in vivo techniques for vegetative propagation. They will carry out laboratory experiments to improve techniques for propagation by cuttings in five important tree species, including the eucalyptus and acacia. The plants will then be transferred to greenhouses and finally nurseries. Once adapted to the environment the genotype will be reproduced on a large scale.

/PLANT BREEDING/ - /TREES/
$93300 36 months
-INSTITUT SENEGALAIS DE RECHERCHES AGRICOLES (ISRA), DAKAR, SN

83-0235 (SS)
UPLAND RESOURCE DEVELOPMENT STUDIES III (PHILIPPINES)

Timber has been severely exploited in the uplands of the Philippines' North Mindano Region. At the same time, the slash-and-burn farming practices of the many migrants who have settled there have destroyed much of the soil. This project will undertake three related studies: to dertermine why the Bureau of Forest Development's programs of reforestation and conservation have met with little success; to identify alternative practices that farmers are willing to adopt that would reduce upland soil erosion; and to evaluate the impact of a reforestation project run by Xavier University, in order to identify ways of increasing uplander involvement in reforestation and soil conservation.

/CULTIVATION PRACTICES/ - /SOIL EROSION/ /DEFORESTED LAND/ /AGRICULTURAL EXTENSION/ /FARMERS/ /ATTITUDES/ /REFORESTATION/ /SOIL CONSERVATION/
$57600 24 months
-RESEARCH INSTITUTE FOR MINDANAO CULTURE OF XAVIER UNIVERSITY, CAGAYAN DE ORO CITY, PH

83-0236 (SS)
MANUFACTURING SECTOR STUDIES (KENYA)

Kenya's manufacturing sector has been unable to maintain its post-independence momentum of growth. Despite a change in industrial policy to emphasize manufacturing for export markets, a marked decline in manufactured exports, occurred in the period 1972-80. Kenyan manufacturing has come to be characterized by unproductivity, inefficiency, and excessive reliance on imported technology. This project will assess economic performance of the manufacturing sector, analyze problems in particular industries, and suggest policies to promote efficiency and expansion.

/MANUFACTURING/ - /INDUSTRY/ /INDUSTRIAL POLICY/ /PRODUCTION FUNCTIONS/ /INDUSTRIAL INVESTMENTS/
$45000 18 months
-UNIVERSITY OF NAIROBI, NAIROBI, KE

83-0237 (SS)
DEVELOPMENTS IN MICROELECTRONICS AND THEIR IMPACT (GLOBAL)

Technological innovations in the electronics sector are expected to have profound and wide ranging impact on the production systems and skill requirements in most economies. This project will enable a network of research groups from five countries, namely, Brazil, Argentina, Mexico, South Korea and India, to study the present and anticipated use of microelectronics based products and devices and their impact in terms of trade, employment, skill requirements, investment, etc. Researchers will examine existing public policies on the microelectronics industry both nationally and internationally and make recommendations for improving them.

/MICROPROCESSORS/ - /ELECTRONICS INDUSTRY/ /TECHNOLOGICAL CHANGE/ /SCIENCE POLICY/ /DECISION MAKING/
$570000 24 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA
-UNIVERSIDADE FEDERAL DE RIO DE JANEIRO, RIO DE JANEIRO, BR
-KOREA ADVANCED INSTITUTE OF SCIENCE (KAIS), SEOUL, KR
-MINISTERIO DE INDUSTRIA, MEXICO, MX
-ELECTRONICS COMMISSION OF THE GOVERNMENT OF INDIA, NEW DELHI, IN

83-0238 (IS)
GRAIN LEGUME INFORMATION CENTRE - PHASE III

The Grain Legume Information Centre (IGLIC) is one of several specialized agricultural information centres that serve both as a resource and as a means of communication among researchers in the developing world. Phase I of this project supported the establishment of IGLIC, the training of staff, and the introduction of various publication and dissemination activities. Phase II continued and strengthened the operation of the centre. Phase III will further consolidate the work of the centre and will foster greater cooperation with other institutions working in the same field to improve dissemination of information. Specifically, in phase III a grain legume database will be designed and implemented; Brazilian cowpea literature will be collected and analyzed; grain legume literature will be microfiched; and IGLIC publications will be distributed.

/SPECIALIZED INFORMATION ANALYSIS CENTRES/ - /LEGUMINOSAE/ /COWPEAS/ /DATA BASES/
$367520 36 months
-INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE (IITA), IBADAN, NG

83-0239 (IS)
NATIONAL INFORMATION NETWORK AND SYSTEM (JAMAICA) - PHASE II

In 1978, the Government of Jamaica, recognizing the need to coordinate and improve information services, produced a Plan for a National Documentation, Information and Library System. Phase I of this project assisted the National Library of Jamaica in assuming its new role as the coordinating focal point of the system and developed a Socioeconomic Information Network. Phase II will enable the National Council on Libraries, Archives and Documentation Services to ensure the continued development of the National Documentation Information and Library System for Jamaica. Specifically, it will develop human resources through training programs; create national automated bibliographic data bases; develop the Scientific and Technological Information Network (STIN) and create, within STIN, an automated data base of holdings; establish a Rural Information Service within STIN; and establish a National Micrographics Laboratory within the National Library.

/INFORMATION SYSTEMS/ - /INFORMATION SERVICES/
$323510 36 months
-NATIONAL COUNCIL ON LIBRARIES, ARCHIVES AND DOCUMENTATION SERVICES (NACOLADS), KINGSTON, JM

83-0240 (IS)
SOUTHEAST ASIAN FISHERIES INFORMATION SYSTEM (SEAFIS)

The Southeast Asian Fisheries Development Centre (SEAFDEC) is an autonomous institution that promotes and supports fisheries development in Southeast Asia. This project will enable the Secretariat of SEAFDEC to establish SEAFIS (Southeast Asian Fisheries Information System) to provide bibliographic information services for fisheries in the region, and to act as the regional input centre for FAO's ASFIS (Aquatic Sciences and Fisheries Information System). SEAFIS will facilitate the exchange of information between national fisheries institutions; provide access to current fisheries documents; expand the collection of non-conventional literature; and, train staff of national centres in modern information handling methods.

/INFORMATION SYSTEMS/ - /FISHERY DEVELOPMENT/ /INFORMATION SERVICES/
$408210 36 months
-SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTRE (SEAFDEC), BANGKOK, TH

83-0241 (IS)
BRACKISH WATER AQUACULTURE INFORMATION SYSTEM (BRAIS)

The Southeast Asian Fisheries Development Centre (SEAFDEC) is an autonomous institution that promotes and supports fisheries development in Southeast Asia. SEAFDEC's Aquaculture Department (AQD) was established in recognition of the potential role of aquaculture in increasing food supplies. AQD is concerned with brackish water species of fish - as opposed to freshwater species - and research focuses on the following economically important aquatic groups: crustaceans, finfish, molluscs and seaweed. This project will enable AQD to provide quality information services on Brackish Water Aquaculture by providing it with the means to collect documents on brackish water aquaculture; set up an appropriate document storage and retrieval system; provide bibliographic searches; and establish a cooperative regional network of information on all brackish water species.

/SPECIALIZED INFORMATION ANALYSIS CENTRES/ - /AQUACULTURE/ /INFORMATION SERVICES/
$388000 36 months
-SOUTHEAST ASIAN FISHERIES DEVELOPMENT CENTRE (SEAFDEC), ILOILO, PH

83-0242 (IS)
SELECTIVE FISHERIES INFORMATION SERVICE

The International Centre for Living Aquatic Resources Management (ICLARM) is an international, non-profit, scientific centre established in 1977 to conduct and stimulate research on all aspects of fisheries and other living aquatic resources in the Southeast Asian and Pacific regions. There is an increasing flow through ICLARM of researchers, consultants and students seeking reliable sources of fisheries information. However, the Information Service at ICLARM was designed to meet staff needs only. The objective of this project is to extend the Information Service to accommodate external users in tropical developing countries. The expanded service will provide individual users with a question and answer service on ICLARM's areas of expertise.

/INFORMATION SERVICES/ - /FISHERY DEVELOPMENT/ /MARINE RESOURCES/
$230145 24 months
-INTERNATIONAL CENTRE FOR LIVING AQUATIC RESOURCES MANAGEMENT (ICLARM), MANILA, PH

83-0243 (IS)
TROPMED MUSEUM AND REFERENCE CENTRE - MOSQUITO-BORNE DISEASES

The TROPMED Museum and Reference Centre (MRC) of Mahidol University in Bangkok is one of the few medical museums in the developing world. Since its establishment in 1971, it has made a modest attempt to collect, document, preserve, store and restore specimens related to the tropical diseases. But in order to be of greater service to public health professionals in Southeast Asia, the MRC needs to develop its information services, technical facilities, and staff. This project will enable TROPMED to strengthen its research and educational capacity through the preparation, dissemination and exchange of information, documents, specimens, audiovisuals and museum exhibits on mosquito-borne diseases -- malaria, dengue haemorrhagic fever, filariasis, and Japanese B encephalitis.

/SPECIALIZED INFORMATION ANALYSIS CENTRES/ - /TROPICAL DISEASES/ /DISEASE VECTORS/
$500000 36 months
-SOUTHEAST ASIAN MINISTERS OF EDUCATION ORGANIZATION (SEAMEO), BANGKOK, TH

83-0244 (HS)
PUMPING TECHNOLOGY RESEARCH (ETHIOPIA) - PHASE II

In order to provide safe and reliable sources of drinking water, the Ethiopian Water Resources Authority (EWRA) undertook research into low-cost water pumping technologies which could be manufactured in Ethiopia at the village level. An economical pump was developed but more research was needed to perfect it. Phase I of this project designed, produced and field-tested several models of handpumps. Results from phase I demonstrated that handpumps with components made of PVC (polyvinyl chloride) can be produced locally and will function adequately on shallow, medium and deep wells. Some technical difficulties discovered during field-testing, however, remain to be solved and these will be addressed during phase II. A maintenance program which incorporates women as handpump mechanics will also be implemented.

/PUMPS/ - /ENGINEERING DESIGN/ /APPROPRIATE TECHNOLOGY/ /MAINTENANCE AND REPAIR/
$111060 30 months
-ETHIOPIAN WATER WORKS CONSTRUCTION AUTHORITY, ADDIS ABABA, ET

83-0245 (SS)
SMALL RESEARCH GRANTS (EAST AFRICA) - PHASE IV

Over the past 15 years, intensive efforts have been made by domestic and international agencies to develop research capacity in the social sciences in Eastern and Southern Africa. Phases I, II and III of this project provided support for the Social Science Research Competition, held annually since 1974 for researchers in Eastern and Southern Africa. The Competition facilitates basic research in the social sciences and contributes to the establishment and maintenance of a social science community with high levels of scholarship. Phase IV of this project will provide support for the tenth round of the Competition.

/RESEARCH FELLOWSHIPS/ - /SOCIAL RESEARCH/
$239000 24 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), NAIROBI, KE

83-0246 (HS)
ALIMENTARY ANEMIA (CENTRAL AFRICAN REPUBLIC)

Nutritional anemia continues to pose grave health problems in developing countries. Women of reproductive age are quite susceptible to this disease. Nutritional anemia is a condition which results when the hemoglobin content of the blood is lowered as a result of a deficiency in essential nutrients. This project will examine to what measure education about good nutrition could improve the nutritional state and lower the rate of anemia in pregnant and lactating women in the Central African Republic. Specifically, researchers will determine the nutritional condition of groups of women in two rural villges and in Bangui. Also, researchers will identify the etiological factors which determine nutritional state, plan and implement nutrition education programs for the groups studied, and evaluate the results of these programmes.

/DEFICIENCY DISEASES/ - /MALNUTRITION/ /WOMEN/ /HEALTH EDUCATION/
$87860 30 months
-SERVICE NATIONAL DE NUTRITION, BANGUI, CF

83-0247 (SS)
OPTIONS FOR ENERGY AND TRANSPORTTION: THEIR IMPACT ON DEVELOPMENT (COSTA RICA)

Over 75 percent of Costa Rica's commercial energy requirement is imported in the form of petroleum, with close to two thirds of this going to the transportation sector. This project will analyze a variety of energy issues in transportation sector, most importantly fuel conservation and petroleum substitutes. Researchers will examine the introduction of new technological options (electrified transport, biomass fuels, gasifier-driven vehicles, etc.); consider ways in which the transportation system affects land use, urbanization, and location of production activities; and identify options for a transportation system consistent with the rational use of available resources.

/TRANSPORT PLANNING/ - /MODES OF TRANSPORTATION/ /POWER DEMAND/ /ENERGY CONSERVATION/ /policy making/
$96800 24 months
-CENTRO DE INVESTIGACIONES SOCIALES, AMBIENTALES Y TECNOLOGICAS (CISAT), SAN JOSE, CR

83-0248 (AFNS)
CHARCOAL PRODUCTION (TANZANIA)

Ninety-five percent of the population of Tanzania depends on wood or charcoal for heating and cooking and the pressure on natural woodlands is becoming excessive. One way of economizing on wood use is to improve charcoal production methods. At present, charcoal is produced almost entirely by villagers and small farmers using traditional earth kilns that require little specialized skill to operate and no capital investment. This project will survey the various types of earth kilns used in Tanzania, and evaluate the yield and quality of charcoal for each. It will also measure the performance of an improved earth kiln model and determine its acceptability for use by rural charcoal producers.

/CHARCOAL/ - /FUELWOOD/ /WOOD PROCESSING/ /EXTENSION SERVICES/
$62150 24 months
-MINISTRY OF NATURAL RESOURCES AND TOURISM, DAR ES SALAAM, TZ

83-0249 (SS)
TECHNOLOGY POLICY (CENTRAL AMERICA) - PHASE II

In phase I of this project, the Central American Institute for Research and Industrial Technology sought to identify the factors that affect technology decisions in Central America. National studies conducted by the researchers in the first phase pointed out the lack of consistent and effective state activity to promote and regulate the process of scientific and technological development. The purpose of phase II is to support a diffusion and training program for technology policy based on the information generated in phase I. Specifically, researchers will prepare and distribute a number of policy papers and research documents; establish a small information unit; undertake a series of meetings with national policymakers; and organize a training workshop using material developed in the first phase.

/SCIENCE POLICY/ - /TECHNOLOGICAL CHANGE/ /AGRICULTURAL SECTOR/
$511400 18 months
-ORGANIZATION OF AMERICAN STATES (OAS), WASHINGTON, US

83-0250 (COMM)
WATER AND SANITATION IMPACT VIDEO PRODUCTION

In 1977, the International Centre for Diarrhoeal Disease Research (ICDDR-B) undertook a study in Teknaf, Bangladesh, to evaluate the effectiveness of a health education program aimed at preventing the spread of diarrhea by encouraging the use of handpumps and sanitary latrines. ICDDR has selected videotape documentation as the most effective medium to communicate the study's methodology and findings. This project will support the production of a videotape on how to implement and document a water and sanitation program. The project will include a training component (for the ICDDR-B) in the techniques of visually documenting the results of scientific research.

/HEALTH EDUCATION/ - /AUDIOVISUAL MATERIALS/ /SANITATION/ /WATER SUPPLY/
$13668 12 months
-INTERNATIONAL CENTRE FOR DIARRHOEAL DISEASES RESEARCH (ICDDRB), DACCA, BD

83-0251 (FAD)
INTERNATIONAL FOUNDATION FOR SCIENCE

The International Foundation for Science (IFS) was created to support young Third World scientists working in the developing regions of the world on problems related to the needs of their countries or regions. This grant will enable the IFS to support 35 young researchers and allow the Centre to maintain its support as it encourages and contributes to the development of an indigenous scientific capability in the Third World.

/APPLIED RESEARCH/
$300000   12 months
-INTERNATIONAL FOUNDATION FOR SCIENCE, STOCKHOLM, SE

83-0252 (HS)
COMMUNITY PARTICIPATION IN MCH/FP/PHC (SRI LANKA)

The goal of health for all by the year 2000 is accepted by most countries, but the means by which it might be achieved are not always clear. One strategy suggested is an emphasis on essential health care, universally accessible, in an acceptable and affordable way, to individuals and families in the community, and with their full participation. This project will test the feasibility of this approach in a rural area of Sri Lanka planning and implementing, through active community participation, a primary health care promotion and delivery program, based on health priorities set by the community itself. The project will test the operational feasibility of the WHO guidelines/manual for initiating and promoting active community involvement in maternal and child health/family planning activities.

/PRIMARY HEALTH CARE/ - /SOCIAL PARTICIPATION/ /COMMUNITY RELATIONS/
$74170   36 months
-TEACHING HOSPITAL OF THE UNIVERSITY OF PERADENIYA, PERADENIYA, LK

83-0253 (SS)
IMPACT OF LARGE ENERGY PROJECTS AND EVALUATION OF ALTERNATIVES (BRAZIL)

While Brazil's energy programs have successfully fostered industrialization and expansion of the gross national product, they have engendered a number of serious economic, social, environmental and political problems. This project will analyze and compare Brazil's hydroelectric and nuclear programs, in terms of the companies involved and the impact on technological development and on the environment. Researchers will review existing literature in Brazil on the technological, economic, environmental, social and political aspects of the two programs and prepare an annotated bibliography; analyze the structure of the programs and the process of transfer and absorption of technology; evaluate and compare the social and environmental impact of the two programs; and suggest alternate energy supply options.

/ENERGY/ - /HYDROELECTRIC POWER/ /NUCLEAR ENERGY/ /TECHNOLOGY TRANSFER/
/ENVIRONMENTAL EFFECTS/ /SOCIAL IMPLICATIONS/
$94000   24 months
-UNIVERSIDADE FEDERAL DE RIO DE JANEIRO, RIO DE JANEIRO, BR

83-0254 (IS)
BIBLIOGRAPHIC SERVICE ON WHEAT AND SMALL GRAINS (CIMMYT)

The mandate of the International Maize and Wheat Improvement Centre (CIMMYT) is to promote and carry out national and international programs to improve maize and wheat production. CIMMYT is looking to develop an information service that will complement its activities in research and training. Many countries are now participating in AGRIS, the system managed by FAO to compile a comprehensive inventory of the world's new agricultural documents. This project will enable CIMMYT to report its publication to AGRIS and to obtain a bi-monthly indexed output from AGRIS covering wheat and the small grains. CIMMYT will then print and distribute this output to individuals, institutions and libraries in the developing countries.

/WHEAT/ - /INFORMATION SERVICES/ /INFORMATION DISSEMINATION/
$72477 36 months
-Centro Internacional de Mejoramiento de Maiz y Trigo (CIMMYT), MEXICO, MX

83-0255 (SS)
URBAN SERVICES MANAGEMENT (TANZANIA)

Tanzania has experienced exceptionally rapid urban growth over the past decades resulting in deteriorating urban services. There is a need to improve urban management procedures, without recourse to expensive capital infrastructure investment. This project will examine the delivery of urban services in four cities and make recommendations for improving their managerial and administrative infrastructure. Particular emphasis will be placed on the housing sector.

/URBAN DEVELOPMENT/ - /PUBLIC SERVICES/ /SOCIAL SERVICES/ /URBANIZATION/
/URBAN RENEWAL/ /HOUSING/ /URBAN PLANNING/
$45300 18 months
-ARDHI INSTITUTE, DAR ES SALAAM, TZ

83-0256 (SO)
CIVIL RIGHTS (ANDEAN REGION)

Three of the most basic civil rights are habeas corpus, free speech, and the right of association. (Habeas corpus is a legal remedy used to question the validity of detentions in the criminal process.) In the Andean Region of South America, a comprehensive picture of current judicial approaches and customs is necessary in order for interested groups, the bar, the judiciaries itself and possibly governments to critique the judicial system and improve the protection of rights. This project will examine how the judiciaries in two countries with different systems of government have dealt with legally recognized civil rights. The project will describe the rights of association and of free speech, and the right to habeas corpus, as contained in the constitutions of Peru and Chile; describe the legal mechanisms through which citizens can exercise these rights; and examine the reasons for judicial actions taken in cases involving these rights.

/CIVIL RIGHTS/ - /CIVIL LIBERTIES/ /LEGAL ASPECTS/
$92180 12 months
-COMISION ANDINA DE JURISTAS, LIMA, PE

83-0257 (SS)
RURAL-URBAN CHANGE IN CHIPATA (ZAMBIA)

The Chipata District of eastern Zambia is characterized by significant levels of rural-urban migration, declining agricultural production, and problems of over-crowding and inadequacy of services in the major urban centres. Zambian policymakers are attempting to formulate policies to deal with these problems, but are seriously constrained by lack of basic information on rural/urban socioeconomic conditions in Chipata District. The purpose of this project is to collect data useful for developing policies to stop the further decline of rural Chipata and assist the urban area to accommodate the migrants. Specifically, researchers will describe social and economic conditions of households in rural and urban areas; assess the motivations of rural-urban migrants; examine the impact of migration on living conditions in rural and urban areas; and describe the state of basic services in urban areas.

/RURAL MIGRATIONS/ - /LIVING CONDITIONS/ /RURAL AREAS/ /URBAN AREAS/
/MIGRANTS/ /MOTIVATIONS/
$51900 18 months
-NATIONAL COMMISSION FOR DEVELOPMENT PLANNING, LUSAKA, ZM

83-0258 (IS)
AGRICULTURAL DOCUMENTATION IN MAURITANIA (SONADER): SUPPORT AND IMPROVEMENT

Agriculture is the most important sector in Mauritania where 90 percent of the population lives in rural areas. The country faces severe climatic hardships, especially drought, but through a programme for agricultural and water development the government hopes to achieve self-sufficiency in food by the year 2000. Agricultural researchers in Mauritania need a documentation centre to collect, analyze and disseminate information on rural and agricultural development, particularly irrigation. The goal of this project is to set up such a centre linked to AGRIS (International Information System for Agricultural Sciences and Technology) as well as to regional information networks in the Sahel, such as RESADOC. The project provides for training in AGRIS methodology and the use of the AGROVOC thesaurus. The publication of an inventory of documents on agroculture in Mauritania as well as a national agricultural bibliography will be produced.

/INFORMATION SERVICES/ /AGRIS/
$94930 24 months
-SOCIETE NATIONALE POUR LE DEVELOPPEMENT RURAL (SONADER), NOUAKCHOTT, MR

83-0259 (SS)
RESEARCH AND TRAINING PROGRAM - CAIRO DEMOGRAPHIC CENTRE (EGYPT) - PHASE I

The Cairo Demographic Centre (CDC) is a training and research institute established in 1963 to support research and training in the field of demography. CDC has provided demographic training at various levels, has undertaken critical research in population-related fields, and has provided advisory services in population to a number of governments in the regions that it serves. This project will financially assist CDC in achieving its research and training objectives in 1984. Specifically, the project will provide fellowship support for 10 students enrolled in the General Diploma, Special Diploma and Masters degree in demography at CDC; and provide support for an experimental research and training program which will focus on the dynamics of fertility and nuptiality in African and Middle Eastern countries.

/DEMOGRAPHY/ - /TRAINING PROGRAMMES/ /FERTILITY/ /NUPTIALITY/
$98440 12 months
-CAIRO DEMOGRAPHIC CENTRE, CAIRO, EG

83-0260 (SS)
HANDICRAFTS STUDIES (SRI LANKA) - PHASE I

Handicrafts are an important source of employment and foreign exchange earnings in the Third World. In order to shed light on their contribution to the national economy of Sri Lanka, this project will determine the primary and secondary employment and foreign exchange earnings generated by the craft industry; examine the socioeconomic conditions of artisans and their methods of production; and identify constraints to the development of the industry. Data will be collected in rural and urban locations on the following major craft industries: rush-ware, reed-ware, and palm-ware; brass and silver products; and, pottery.

/HANDICRAFT/ - /COTTAGE INDUSTRY/ /EMPLOYMENT/ /HANDICRAFT PROMOTION/
$59200 20 months
-MARGA INSTITUTE, COLOMBO, LK

83-0263 (AFNS)
POTATO PROCESSING SYSTEMS (PERU)

Potatoes are the major agricultural food crop in Peru and the main source of carbohydrates in the diet of poor families. Lately, however, the price of potatoes has put them beyond the range of low-income consumers. Efforts have been made by the International Potato Centre (CIP) to develop dried, potato based food products incorporating a mixture of potatoes, local cereals, and legumes. They are designed to be cheaper than potatoes, to provide a good nutritional balance, and to be acceptable for common meal preparations. This project will enable CIP to develop, test, evaluate, and promote two simple processes for the production of nutritious, potato based products, one for manufacture at the household or community level and the other, on a factory scale.

/POTATOES/ - /FOOD PROCESSING/ /DRYING/ /post-harvest systems/
$54600 12 months
-CENTRO INTERNACIONAL DE LA PAPA (CIP), LIMA, PE

83-0264 (SS)
HANDICRAFTS STUDIES II (NEPAL)

While cottage industries are a major source of employment in Nepal, little is known about the artisans or the problems faced by these industries. This project will examine the contribution of the craft industry to the national economy in terms of primary and secondary employment and foreign exchange earnings; examine the socioeconomic conditions of artisans and their methods of production; and identify constraints to the development of the industry. Data will be collected in rural and urban locations on the textile, art-metal, and wood-carving industries.

/HANDICRAFT/ - /COTTAGE INDUSTRY/ /EMPLOYMENT/ /HANDICRAFT PROMOTION/
$85500 20 months
-TRIBHUVAN UNIVERSITY, KATHMANDU, NP

83-0265 (SS)
HANDICRAFTS STUDIES III (THAILAND)

There is probably no other country in Southeast Asia with such a rich handicraft tradition as Thailand, but little data on handicrafts or artisans are available. By focusing on the three most important handicraft products from both rural and urban areas of Chiang Mai and Lumphun provinces -- woodcarvings, handwoven products, and wickerware -- this project will examine the contribution of the craft industry to employment and foreign exchange earnings; the socioeconomic conditions of artisans; and production methods and constraints to growth within the industry.

/HANDICRAFT/ - /COTTAGE INDUSTRY/ /EMPLOYMENT/ /HANDICRAFT PROMOTION/
$59000 20 months
-THAI UNIVERSITY RESEARCH ASSOCIATION (TURA), BANGKOK, TH

83-0266 (SS)
HANDICRAFTS STUDIES IV (PHILIPPINES)

Although the handicraft industries play an important role in the Philippine economy, little information on them is available. This project will examine the contribution of the craft industry to primary and secondary employment and foreign exchange earnings; examine the socioeconomic conditions of artisans and their methods of production; and identify constraints to the development of the industry. Data will be collected in rural and urban locations on the rattan, needle work and mat weaving industries.

/HANDICRAFT/ - /COTTAGE INDUSTRY/ /EMPLOYMENT/ /HANDICRAFT PROMOTION/
$67200 20 months
-RAMON MAGSAYSAY AWARD FOUNDATION, MANILA, PH

83-0267 (SS)
Macroeconomic Policy (Turkey)

Turkey's trade deficit, inflation and unemployment are all on the rise. The researchers undertaking this project contend that earlier attempts at economic stabilization did not address deeply rooted problems. The purpose of this project is to formulate a macroeconomic strategy encompassing short-term stabilization measures, financial reform, and a structure of protection appropriate to export-oriented growth.

/macroeconomics/ /economic policy/ /stabilization/
$66650 18 months
-Bogazici University. Economics Department, Istanbul, TR

83-0268 (SS)
BALANCE OF PAYMENTS, SAVINGS AND INVESTMENT (COLOMBIA) - PHASE I

Regardless of the outcome of the present debt crisis, countries with large external debts are unlikely to enjoy the same inflow of commercial foreign capital in the future. A greater proportion of their investment requirements will need to come from domestic savings. The mobilization of domestic resources cannot be isolated from other factors affecting macroeconomic stability, especially those involved in balance of payment adjustment. This project will study the balance of payment adjustment process in Colombia with particular reference to the role played by changes in saving and investment activities. Researchers will examine the impact of changes in export earnings on private saving and investment behaviour; the effect of devaluation on prices and economic activity; the effectiveness of import controls as an adjustment mechanism; and the impact of balance of payment adjustment on saving and investment by the public sector.

/BALANCE OF PAYMENTS/ - /MACROECONOMICS/ /SAVINGS/ /INVESTMENTS/ /PRICES/
/FISCAL POLICY/ /DEVALUATION/ /ECONOMETRIC MODELS/
$98600 15 months
-FUNDACION PARA LA EDUCACION SUPERIOR Y EL DESARROLLO (FEDESARROLLO), BOGOTA, CO

83-0269 (SS)
QUALITY OF SECONDARY EDUCATION (KENYA)

Various reports on Kenyan education indicate the quality of secondary education has been adversely affected by the rapidity of the system's expansion over the last two decades. There is little information to suggest, however, what could be done to improve the situation. This project will analyze patterns of quality and their determinants in a sample of Kenyan secondary schools, with particular attention to management, resource allocation and staffing. The researchers will attempt to determine the extent to which managerial and financial practices influence the quality of schooling as defined by academic achievement and school activities.

/SECONDARY EDUCATION/ - /SCHOOL ENVIRONMENT/ /QUALITY OF EDUCATION/ /EDUCATIONAL ADMINISTRATION/
$61500 24 months
-UNIVERSITY OF NAIROBI, NAIROBI, KE

83-0270 (OPE)
EVALUATION OF RESEARCH PROJECTS IN THAILAND

Between 1970/71-1982/83, the International Development Research Centre (IDRC) provided more funding for projects to Thailand than to any other country. This project will assess the impact of five completed agricultural projects in terms of development of local research capability and production of useful knowledge. Also included will be an evaluation of the contributions made by the Central Agency and Production Ministeries of the Government of Thailand to the development and implementation of the projects.

/PROJECT EVALUATION/ - /AGRICULTURAL PROJECTS/ /AGRICULTURAL RESEARCH/
$10614 4 months
-DEPARTMENT OF TECHNICAL AND ECONOMIC COOPERATION (DTEC), BANGKOK, TH

83-0271 (SS)
MACROECONOMICS AND BALANCE OF PAYMENTS RESEARCH (CHILE) - PHASE III

The Economic Research Corporation for Latin America (CIEPLAN) undertook an analysis of Chile's macroeconomic stabilization policies in phases I and II of this project, including studies on indexing, national accounts, income distribution, and external trade. In phase II research focussed on a number of specific topics that bear directly on balance of payments and stabilization policies, e.g. price formation and the relationship between wage policy and employment. This third phase of support will permit CIEPLAN to analyze several more crucial macroeconomic relationships in detail (in fiscal policy and in the financial sector) - and to model the Chilean economy so as to test the impact of alternative macroeconomic policies for future years.

/MACROECONOMICS/ - /STABILIZATION/ /BALANCE OF PAYMENTS/ /ECONOMIC POLICY/ /FISCAL POLICY/ /ECONOMIC MODELS/
$450000 18 months
-CORPORACION DE INVESTIGACIONES ECONOMICAS PARA AMERICA LATINA (CIEPLAN), SANTIAGO, CL

83-0272 (AFNS)
MAIZE STORAGE (TOGO)

Considerable grain loss due to insect infestation and fungi occurs in Togo during the postharvest period as a recult of hot and humid climatic conditions and poor storage techniques. This project will examine current storage techniques to determine what can be done to reduce future losses. The researchers will evaluate traditional storage methods, propose and test improved silos and relay the results of the study to farmers through a series of seminars and a final report.

/FOOD STORAGE/ - /MAIZE/ /post-harvest systems/
$173100   36 months
-UNIVERSITE DU BENIN, LOME, TG

83-0273 (SS)
COSTS AND CONTRIBUTIONS OF HIGHER EDUCATION (THAILAND)

Within Thailand a serious debate is growing on the question of university expansion. Social critics point out that costs per university student are about 12 times those for primary students and the social rate of return for higher education, based on previous research, was small relative to that of other levels. Faced with the accelerating demand for higher education on the one hand and serious questions about its social returns on the other, policymakers with limited resources need guidelines to help them make choices between alternative courses of action. This project will attempt to assess the cost and socioeconomic contribution of university graduates (bachelor's degree), as measured by their social behaviour, values, and attitudes.

/HIGHER EDUCATION/ - /COST OF EDUCATION/ /EDUCATIONAL OUTPUT/ /QUALITY OF EDUCATION/ /COST-BENEFIT ANALYSIS/
$94600   36 months
-NATIONAL EDUCATION COMMISSION (NEC), BANGKOK, TH

83-0274 (SS)
TRADE UNION RESEARCH CAPACITY (KENYA)

Trade unions have a long history in Kenya, and were important political factors in the struggle for independence. However, in recent years, the trade union movement has become weaker as a social institution. One significant factor in this weakness has been the failure to exploit research in such fields as industrial safety, occupation hazards, training needs, etc. This project will support studies which will investigate the potential for adult literacy programs within the Kenyan trade union movement; and examine the feasibility of establishing a cooperative catering to union members in Nairobi and Mombasa. The project will also prepare several unions, through a study seminar, to undertake, monitor, and evaluate research on occupational health problems in industry and estate agriculture.

/TRADE UNIONS/ - /ORGANIZATION OF RESEARCH/ /INSTITUTION BUILDING/
$40100   12 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), NAIROBI, KE

83-0275 (AFNS)
TIMBER PRESERVATION (BOLIVIA)

The timber used in the construction and mining industries of Bolivia comes from natural and plantation forests. Most of it is not preservation treated and therefore has a limited period of usefulness. The result is a more rapid depletion of forests. This project will help to determine the availability and durability of native and plantation-grown timber, and to evaluate the effect of preservatives on these species.

/FORESTRY RESEARCH/ - /FOREST TREES/ /TIMBER/ /FOREST PRODUCT PROCESSING/
$235100   36 months
-MINISTERIO DE ASUNTOS CAMPESINOS Y AGROPECUARIOS, LA PAZ, BO

83-0276 (AFNS)
AGROFORESTRY (PERU)

Most of the population of Peru live in the coastal and highland regions but arid conditions of these areas is resulting in an increased migration of farmers to the Amazon basin (the selva). Agricultural development of the Amazon is a national priority but it has so far been inhibited by the large cash and labour inputs required to overcome soil infertility and other natural constraints. This project will support the study of improved alternative agroforestry production systems in the selva and will contribute to the strengthening of the agroforestry research capability in Peru.

/AGROFORESTRY/ - /AGRICULTURAL RESEARCH/ /FORESTRY RESEARCH/ /INTERCROPPING/ /FOOD CROPS/ /FRUIT TREES/ /SOIL FERTILITY/ /TROPICAL ZONE/
$383600 36 months
-INSTITUTO NACIONAL DE INVESTIGACION Y PROMOCION AGROPECUARIA (INIPA), LIMA, PE

83-0277 (AFNS)
FOREST REGENERATION (CHILE)

Natural regeneration of forest resources is the most cost-effective method for producing fuelwood and fodder, especially in areas of low rainfall. The government of Chile has sponsored incentives for investing in the forestry sector but these have had little impact in the semi-arid zone of central Chile due to the lack of knowledge of silvicultural techniques appropriate to the area. This project will support the development of suitable silvicultural techniques for the regeneration and management of depleted native woodlands and the identification of appropriate exotic tree species and techniques for their establishment in small-scale artificial plantations.

/SILVICULTURE/ - /CULTIVATION TECHNIQUES/ /SEMI-ARID ZONE/ /FORESTRY RESEARCH/ /FOREST TREES/ /PLANTATIONS/ /REFORESTATION/ /FUELWOOD/
$321200 36 months
-INSTITUTO FORESTAL, SANTIAGO, CL

83-0278 (AFNS)
SABAH RICE LAND EVALUATION (MALAYSIA)

Rice is the staple food of the 800 000 inhabitants of Sabah province in Malaysia but local production meets only half the demand. With a view to opening up new areas for rice production, this project will enable the Ministry of Agriculture to develop criteria for determining--from soil surveys--the production potential of various areas. The project will define the relationship between soil characteristics and rice yields; evaluate nitrogen response on the major rice-growing soils; and, develop an evaluation system to select the best rice-producing areas.

/RICE/ - /CROP YIELD/ /SOIL SURVEYS/ /AGRICULTURAL POTENTIAL/
$14100 12 months
-CANADIAN UNIVERSITY SERVICE OVERSEAS (CUSO), OTTAWA, ONTARIO, CA

83-0279 (SS)
INFORMATION TECHNOLOGIES AND CULTURAL POLICIES (PERU)

During the past decade, new information technologies particularly microprocessors have achieved unprecedented levels of data collection, processing and dissemination in the areas of industry, office management, banking, library services and education. This project aims to bring together existing knowledge about the state of communication technologies in Latin America. Information will be collected on the manufacture and importation of microelectronic hardware and software; existing policies, laws and regulations governing microelectronics; and state regulatory agencies in the field of microelectronics. The information collected will enable policymakers to make informed choices from among the different options offered by information systems manufacturers.

/TELECOMMUNICATIONS/ - /MICROPROCESSORS/ /COMMUNICATION POLICY/ /policy making/ /ACCESS TO INFORMATION/ /INFORMATION NEEDS/ /CULTURAL FACTORS/
$65000 8 months
-CENTRO DE ESTUDIOS SOBRE LA CULTURA TRANSNACIONAL, LIMA, PE

83-0280 (HS)
EPIDEMIOLOGY OF DIARRHEA (HONDURAS)

In Honduras, diarrheal disease is the major cause of childhood illness and death. Health planners require data on the epidemiology of diarrheal disease in order to effectively plan and evaluate their control programs and their national oral rehydration program. This project will investigate the epidemiology of diarrheal disease in rural Honduras in a population of children under five years of age. Researchers will determine the nutritional status of the study population; evaluate the relationship between nutritional status and the occurrence of diarrheal disease; assess the immune status of the study population; and, study the social, cultural and economic factors which contribute to the occurrence of diarrheal disease.

/DIARRHEA/ - /EPIDEMIOLOGY/ /CHILDREN/ /NUTRITION/ /HEALTH PLANNING/ /DISEASE CONTROL/
$200150 24 months
-UNIVERSIDAD NACIONAL AUTONOMA DE HONDURAS, TEGUCIGALPA, HN

83-0281 (AFNS)
DAIRY/BEEF PRODUCTION SYSTEMS (BOTSWANA)

Milk supplies in Botswana are inadequate, especially in the urban centres. With a view to increasing milk production and national livestock research capability, this project will carry out a diagnostic survey of the existing physical infrastructure, resources, and management and marketing practices. Specifically, the project will identify the constraints affecting milk production; develop, test and evaluate appropriate technologies; and devise a suitable milk-marketing strategy. Short course training in milk production, marketing, and animal and fodder production will be made available to two research fellows.

/AGRICULTURAL RESEARCH/ - /CATTLE/ /DAIRY INDUSTRY/ /CATTLE PRODUCTION/ /MILK/
$445700 36 months
-MINISTRY OF AGRICULTURE, GABORONE, BW

83-0282 (AFNS)
Phosphate Fertilizers (IFDC/West Africa) - Phase II

In West Africa, use of local phosphate rock for crop fertilization has declined in recent years from previous low levels. Instead, imported processed phosphate fertilizers are employed. High world prices and transport costs make these too costly for small farmers. Phase I of this project sought to identify efficient phosphate fertilizers, agronomically and socio-economically appropriate to Mali, developed from indigenous phosphate deposits. Researchers in phase II will complete measurements of residual phosphate availability and agronomic effectiveness of local phosphate sources in continuing on-station trials; develop a preliminary model for phosphate responses; develop phosphate fertilizer recommendations for principal crops; and, conduct an extended program of farm trials.

/fertilizers/ /on-farm research/
$322500 24 months
-International Fertilizer Development Center (IFDC), Muscle Shoals, Ala., US

83-0284 (AFNS)
PROCESS IMPROVEMENT BAKERIES (CHILE) - PHASE II

Under current operating conditions, small-scale bakeries in Chile are no longer viable, mainly due to the ending of wheat price subsidies and rising costs of raw materials, labour, and energy. This project will support the improvement of neighbourhood bakery operations in order to increase productivity, profitability, and quality. Project developments and results will be disseminated to bakers and to other process improvement projects developed by IDRC.

/BAKERY PRODUCTS/ - /SMALL-SCALE INDUSTRY/ /OPERATIONAL RESEARCH/ /COST-BENEFIT ANALYSIS/ /FOOD PROCESSING/ /QUALITY CONTROL/
$166900 24 months
-INSTITUTO DE INVESTIGACIONES TECNOLOGICAS (INTEC), SANTIAGO, CL

83-0285 (HS)
PROMOTION OF BREAST-FEEDING (PHILIPPINES)

In the urban squatter settlements of the developing world, the immunological properties of breast-milk can mean the difference between life and death. However, even as its advantages are beginning to be appreciated, the incidence and duration of breast-feeding continue to decline in almost every developing nation. To combat this trend, researchers in the Philippines will develop an educational program aimed at promoting breast-feeding among women of low income groups in three urban centres on the island of Mindanao. The project will train government midwives and nurses as motivators to encourage women to breast-feed; implement and evaluate the effectiveness of the educational program; and examine the relationship between various socio-demographic factors and the duration of breast-feeding.

/breast feeding/ - /HEALTH EDUCATION/
$80720 24 months
-NOTRE DAME UNIVERSITY, COTABATO CITY, PH

83-0286 (AFNS)
FISH SEED RESOURCES (PHILIPPINES)

Under current exploitation technology, the catch of milkfish fry obtained in the Philippines is contaminated with the fry of other finfish and crustaceans, which are left to die on the beaches. Recent advances in aquaculture have indicated the availability of markets or outlets for extraneous fry. This project will investigate the feasibility of utilizing fry other than milkfish in fish farming. Specifically, researchers will collect and identify larval fishes in the coastal waters of Negros Oriental; study the seasonal fluctuating of extraneous finfish and crustacean fry; test-rear different species; and, provide training in the identification and handling of indigenous fry.

/FISHERY DEVELOPMENT/ - /FISH UTILIZATION/ /AQUACULTURE/
$211700 36 months
-BUREAU OF FISHERIES AND AQUATIC RESOURCES (BFAR), METRO MANILA, PH

83-0287 (AFNS)
FISH DISEASE (PHILIPPINES)

Aquaculture, although a promising supplyer of animal protein to the world's population, is highly susceptible to environmental influences such as diseases and parasites. Vast populations of fish can be wiped out within a few weeks or even days by an uncontrolled outbreak of disease. This project will develop a system for fish disease prevention and control in the Philippines. Specifically, researchers will take inventory of major fish diseases and identify the pathogens in their etiology; establish a central fish disease laboratory and train staff in elementary disease diagnosis; and investigate possible ways of preventing the introduction of fish pathogens to the Philippines and their transfer within the country.

/FISH/ - /ANIMAL DISEASES/ /DISEASE CONTROL/ /DIAGNOSIS/
$501600 36 months
-BUREAU OF FISHERIES AND AQUATIC RESOURCES (BFAR), QUEZON CITY, PH

83-0288 (AFNS)
RATTAN (INDONESIA)

Indonesia is by far the most important rattan producing country in Southeast Asia, providing over 80 percent of the world's supply of raw rattan. Much of the raw material is wasted during collection and processing, however, and this valuable natural resource is rapidly being depleted. Researchers in this project will identify improved methods for production, collection and utilization of native rattan species and develop techniques for the establishment of rattan plantations. They will survey rattan species; investigate silvicultural and propagation potential of large-diameter rattans; improve harvesting, processing and grading procedures and determine the properties and possible uses of unexploited species; and investigate rattan pests and their control.

/PALMS/ - /SILVICULTURE/ /FOREST MANAGEMENT/ /PEST CONTROL/ /FOREST UTILIZATION/
$208970 36 months
-Ministry of Forestry, Bogor, ID
-Gadjah Mada University, Yogyakarta, ID

83-0289 (AFNS)
MINERAL NUTRITION (MALAWI)

Malawi would like to expand its cattle industry to meet domestic demands for meat and milk but present cattle reproduction rates are low, mainly due to poor nutrition. The objective of this project is to determine the mineral requirement of cattle grazing on Malawi's natural pastures. Researchers will determine the effects of salt, phosphorus and copper supplements on the reproductive performance of the heifers and cows grazing natural pastures; develop appropriate mineral mixtures; and, conduct a cost-benefit analysis of mineral supplementation.

/FEED SUPPLEMENTS/ - /ANIMAL NUTRITION/ /CATTLE PRODUCTION/ /FORAGE CROPS/
$69400 36 months
-MINISTRY OF FINANCE, LILONGWE, MW

83-0290 (SS)
LOW-COST URBAN SANITATION (MOZAMBIQUE)

In an earlier project carried out by the Health Sciences Division, urban planning authorities in Mozambique developed a low-cost latrine for use in outlying areas of the capital city of Maputo. A somewhat conical, round concrete slab was designed to fit over pit latrines to maintain cleanliness and discourage flies. This project will study cooperatives producing latrines and latrine slabs in order to plan an effective strategy for spreading the technology. Researchers will assess local acceptance of the latrines and describe the management, financing and marketing arrangements of the cooperatives and provide training as required.

/SANITATION SERVICES/ - /PRODUCTION COOPERATIVES/ /EVALUATION/
$62500 24 months
-NATIONAL INSTITUTE FOR PHYSICAL PLANNING, MAPUTO, MZ

83-0291 (AFNS)
FISHERIES DEVELOPMENT (COLOMBIA)

Colombia reported a total catch of 93 250 metric tonnes (ton) of marine and fresh water production during 1981, of which only 28 000 ton were marine fish and crustaceans. Estimates of Colombia's fisheries potential suggest a marine catch of around 235 000 ton and the government has made fisheries development a priority in the National Development Plan. Unfortunately, knowledge of fishery resources is fragmentary and outdated; statistics are incomplete and unreliable; the number and size of fishing operations are unknown; and, specialized personnel to collect and analyze data are lacking. The objectives of this project are to update information on the status of fisheries resources, fishing operations, and marketing infrastructure on the Northeast Caribbean coast in order to prepare a pilot development plan for its small-scale fisheries; and, to devise a practical model of fisheies development for small communities that would be applicable to other regions as well.

/FISHERY DEVELOPMENT/ - /FISHERY RESOURCES/ /FISHING/ /MARKETING/ /FISHERY PRODUCT PROCESSING/
$187200 18 months
-Fondo Colombiano de Investigaciones Cientificas y Proyectos Especiales Francisco José de Caldas (COLCIENCIAS), BOGOTA, CO

83-0292 (SS)
RURAL ENERGY PLANNING - CASE STUDY IN THE MICROREGION OF VALENCA, BAHIA (BRAZIL)

Energy planning and decision-making has become increasingly centralized in Brazil and policymakers have been criticized for not taking into account local regional differences. This project proposes to do a case study of the energy system of the region of Valença in the state of Bahia. Researchers will develop a methodology for evaluating various energy options for the rural region; select those which best fit the peculiarities of the region; and formulate models for the implementation of a regional rural energy program.

/ENERGY/ - /SURVEYS/ /RURAL AREAS/ /ENERGY CONSUMPTION/ /ENERGY SOURCES/ /ENERGY ECONOMICS/ /ENERGY POLICY/
$96300 24 months
-FUNDACAO DE APOIO A PESQUISA E EXTENSAO, BAHIA, BR

83-0293 (COMM)
DEPTHNEWS SCIENCE FEATURE SERVICE - PHASE I

The Press Foundation of Asia (PFA) has been active in the field of science writing for several years, recently operating a science reference service for the media in Asia through the Depthnews Science Service. The aim of the service was to increase interest in science reporting and to provide Asian journalists with models of science writing. This project will enable PFA to commission 52 "science and technology in development" feature articles from freelance Asian journalists; to rewrite and translate 12 of the 52 features into 5 national languages for use by the Depthnews Service's national editions and; to rewrite the 52 feature articles into broadcast format for transmission by the Depthnews Radio Service.

/SCIENTIFIC INFORMATION/ - /WRITING/ /INFORMATION DISSEMINATION/ /MASS MEDIA/
$12943 12 months
-PRESS FOUNDATION OF ASIA (PFA), MANILA, PH

83-0295 (AFNS)
SHELTERBELT (TUNISIA) - PHASE II

This is the second phase of a project in Tunisia to study the effectiveness of using trees as shelterbelts or wind breaks during different growing seasons and under a variety of climatic conditions. The research is particularly important for the dry zones in the Sahara where agricultural production is so dependent on protection against wind erosion. Specifically, the project aims to determine the effects of shelterbelts on the physiology of market garden plants; the types trees best adapted for reducing wind erosion under arid conditions; and the potential for increasing crop production - and income - through the use of shelterbelts. During the last year of the project a program to promote the use of shelterbelts by farmers will be carried out.

/SHELTERBELT/ - /EROSION CONTROL/ /SOIL EROSION/ /TREES/ /AGRICULTURAL PRODUCTION/
$326700 36 months
-INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE DE TUNISIE (INRAT), ARIANA, TN

83-0296 (AFNS)
BAMBOO (BANGLADESH) - PHASE II

Bamboo is one of the most important forest products of Bangladesh. The livelihood of many people depends on the production and sale of bamboo articles. In recent years, scarcity of bamboo and consequent price increases have affected house building and various cottage industries, particularly in rural areas. There is an urgent need to increase the supply of high-yielding bamboo. In phase I of this project several varieties of four high-yielding bamboo species were established in four research stations in different parts of the country and very promising results were obtained with two common bamboo species for vegetative propagation by branch cutting. Phase II will continue the research on high-yielding varieties of local and introduced bamboo species with emphasis on culture techniques and trials in selected villages aimed at interesting rural people in bamboo cultivation.

/BAMBOO/ - /GENETIC IMPROVEMENT/ /PLANT BREEDING/ /CULTIVATION PRACTICES/ /AGRICULTURAL EXTENSION/
$144465 36 months
-BANGLADESH AGRICULTURAL RESEARCH COUNCIL (BARC), DHAKA, BD

83-0297 (IS)
INFORMATION FOR EXPORT PROMOTION (COSTA RICA) - PHASE II

Costa Rica is undergoing a severe balance of payments crisis and the promotion of exports is seen as a means to relieve it. Phase I of this project supported a feasibility study on the type of information system that would best support decision-making in the export trade and the management of international payments. It resulted in a 400-page report which contained a survey of information resources and needs as well as a proposal for the establishment of a System of Information for Export Promotion (SISEX). However, the report revealed that the existing institutional framework was not adequate for implementing the project. Phase II will enable the government to review with a view to revising its plan for the implementation of SISEX.

/INFORMATION SYSTEMS/ - /EXPORT PROMOTION/ /INFORMATION NEEDS/
$34200 9 months
-CENTRO DE TELECOMUNICACIONES PARA EL TERCER MUNDO (CETTEM), SAN JOSE, CR

83-0298 (COMM)
PANA WORKSHOPS (2) ON REPORTING SCIENCE AND TECHNOLOGY

In some sub-Saharan African countries, a few media carry regular science columns or programs, but science reporting is still in its infancy on most of the continent. Science writing is only just beginning to be taught in a few journalism schools. This project will enable PANA (Panafrican News Agency) to organize and conduct two training workshops on reporting science and technology, with a view to increasing the scope and quality of science writing in the mass media in anglophone and francophone Africa. Journalists and feature writers from 37 national news agencies will receive training in writing news reports and features about science and technology. Once back in their countries, these science writers will become contributors to a new PANA Bulletin on Science and Technology.

/WRITING/ - /SCIENCE/ /JOURNALISTS/ /SCIENTIFIC INFORMATION/
$89533 10 months
-PANAFRICAN NEWS AGENCY (PANA), DAKAR, SN

83-0299 (IS)
TROPICAL VEGETABLE INFORMATION SERVICE (TVIS)

The Asian Vegetable Research and Development Centre (AVRDC) is an international institution funded by several Asian governments and donor agencies to collect and review material pertaining to the cultivation of tropical vegetables. This project will enable AVRDC to serve as a specialized information centre on mungbean, soybean and Chinese cabbage in tropical and subtropical countries. Specifically AVRDC will collect, store and analyze documents on mungbean, soybean rust and Chinese cabbage; establish a computerized information retrieval system using MINISIS; and, conduct an international workshop/symposium on mungbean as a means of bringing together all available scientific knowledge about this crop.

/VEGETABLES/ - /SPECIALIZED INFORMATION ANALYSIS CENTRES/ /INFORMATION ANALYSIS/ /INFORMATION DISSEMINATION/
$453730 36 months
-ASIAN VEGETABLE RESEARCH AND DEVELOPMENT CENTER (AVRDC), TAINAN, TW

83-0300 (AFNS)
Regional Seed Centre (Zimbabwe)

Plantation establishment programs are being emphasized by developing countries because tree crops help improve living standards. The ability to procure quality seed of the best-adapted species is crucial to the success of the programs. In Eastern and Southern Africa, national seed centres have encountered difficulties in procuring tree seeds. The purpose of this project is to support the establishment of a Regional Seed Centre to give Zimbabwe, Botswana, Kenya, Madagascar, Malawi, Rwanda, Swaziland, Tanzania, Uganda and Zambia access to certified forest seed for research and development. The Centre will process, store, test and distribute quality seed within the region.

/seeds/ /trees/ /delivery/ /regional cooperation/
$340950 36 months
-Zimbabwe Forestry Commission, Harare, ZW

83-0301 (SS)
ENERGY POLICY RESEARCH (SEYCHELLES)

The Republic of Seychelles, like many other small developing countries, is heavily dependent on imported oil to satisfy its energy requirements. The government recognizes the need to develop a national energy policy but lacks information on which to base one. The objectives of this project are to survey current energy supply and consumption in all sectors of the economy; make preliminary recommendations for energy conservation; and build a local capacity for energy policy research.

/ENERGY POLICY/ - /ENERGY SOURCES/ /ENERGY CONSUMPTION/ /ENERGY CONSERVATION/
$97200 30 months
-MINISTRY OF PLANNING AND EXTERNAL RELATIONS, VICTORIA, SC

83-0302 (SS)
AGRICULTURAL DEVELOPMENT RESEARCH PROGRAM (NEPAL) - PHASE II

The Agricultural Projects Service Centre (APROSC) is an autonomous, quasi-governmental institution intended to support research projects and related training in the agricultural sector in Nepal. In 1982 APROSC set up a Research and Planning Unit (RPU) to undertake policy studies in agricultural development. The first phase of this project provided funds to enable RPU to establish a process of identifying and assigning priority to research topics; to develop research proposals; and to implement research and evaluate findings. Phase II will permit RPU to carry out a program of studies on agricultural and rural development policy in Nepal. Specifically, the project will contribute to a comprehensive view of Nepalese rural development problems and their interrelationships; and, encourage a continuing dialogue between RPU and policymakers.

/AGRICULTURAL RESEARCH/ - /RESEARCH PROGRAMMES/ /ORGANIZATION OF RESEARCH/
/AGRICULTURAL DEVELOPMENT/ /policy making/
$250000 30 months
-AGRICULTURAL PROJECTS SERVICES CENTRE (APROSC), KATHMANDU, NP

83-0303 (HS)
PNEUMOCONIOSIS (INDIA)

The incidence of pneumoconiosis in coal miners is directly related to the high levels of dust in their working environment. The primary objective of this project is to study the prevalence and severity of pneumoconiosis in coal miners in India. Specifically, the health status of randomly selected miners in Bihar and West Bengal will be assessed and the environment within the mines evaluated. The findings of the study will be presented at a national workshop.

/OCCUPATIONAL DISEASES/ - /COAL MINING/ /MINERS/ /WORKING CONDITIONS/
/OCCUPATIONAL SAFETY/ /OCCUPATIONAL HYGIENE/
$214720 36 months
-INDIAN COUNCIL OF MEDICAL RESEARCH (ICMR), NEW DELHI, IN

83-0304 (HS)
BRUGIA MALAYI (INDONESIA)

The government of Indonesia is relocating workers from overcrowded areas of Java to less populated regions of the country. These people will be at risk of contracting filariasis, a parasitic disease usually transmitted by mosquito vectors. Brugia Malayi is the filarial species commonly found in many areas of Indonesia. Control of the disease is difficult, not only because of the usual problems in eliminating a mosquito vector, but because Brugia Malayi is also a zoonosis harboured by monkeys living in the forests surrounding the rural settlements. This project will study the transmission and treatment of Brugia Malayi -- specifically, the efficacy and side effects of low dosage mass treatment with diethylcarbamazine, and the role of leaf monkeys in the infection of migrants.

/FILARIASIS/ - /DISEASE TRANSMISSION/ /DISEASE CONTROL/ /MEDICAL CARE/
$69090 24 months
-MINISTRY OF HEALTH, JAKARTA, ID

83-0306 (SS)
REGIONAL AWARDS AND PROGRAM SUPPORT (CLACSO) LATIN AMERICA - PHASE III

The Latin American Social Science Council (CLACSO) promotes the development of the social sciences in various ways; through seminars, research grants, information exchanges, meetings, etc. Phases I and II of this project aided CLACSO in developing and funding a program of individual academic assistance. Phase III will provide continued support for the junior researcher awards and special awards for researchers who face hostile or uncertain research environments. It will also strengthen CLACSO's administrative structure by providing funds for an awards officer and support for other activities of the Executive Secretary's office.

/SOCIAL RESEARCH/ - /RESEARCH FELLOWSHIPS/
$448500   24 months
-CONSEJO LATINOAMERICANO DE CIENCIAS SOCIALES (CLACSO), BUENOS AIRES, AR

83-0307 (HS)
Liver Fluke Infections (Thailand)

Parasitic worm infections remain one of the world's major public health problems. One class localized mainly to Southeast Asia and the Far East is the liver flukes. The liver flukes, a group of flat worms, are transmitted to man through the eating of raw or half-cooked fish. Opisthorchis viverrini is the liver fluke commonly found in Thailand, mainly in the northern and northeast section of the country. Researchers in this project will determine the prevalence of Opisthorchis infection in the study population and assess their nutritional status and food consumption patterns. An appropriate nutritional/health education program aimed at preventing opisthorciasis will be developed. Researchers will evaluate the effectiveness of the education program and mass chemotherapy on the prevalence and severity of opisthorciasis.

/parasitic diseases/ /disease transmission/ /disease control/ /drugs/ /health education/
$173330   24 months
-Mahidol University. Department of Tropical Nutrition and Food Science, Bangkok, TH

83-0308 (IS)
Philippine Root Crops Information Service (PRIS)

In the Philippines increased emphasis is being placed on research on root crops because of their importance in balanced nutrition. There is a need to ensure dissemination of information on new varieties of root crops, their production characteristics and uses. This project will enable the Philippine Root Crops Research and Training Centre to establish a specialized information analysis centre on root crops to serve national scientists and extension workers. The centre will provide for more secure and regular dissemination of national information and will strengthen links with the international agricultural research centres.

/specialized information analysis centres/ /root crops/ /information services/ /information dissemination/
$238730   36 months
-Visayas State College of Agriculture (VisCA), Leyete, PH

83-0309 (HS)
COST-BENEFIT ANALYSIS OF INDUSTRIAL SAFETY (KOREA)

Korea has experienced rapid industrialization over the last two decades and industrial accidents and occupational diseases have increased concominantly. This project will attempt to demonstrate that a safer working environment leads to increased labour productivity by reducing time lost due to industrial accidents and occupational diseases. Researchers will conduct a comparative study of the working environments and safety conditions in 18 Korean companies in the furniture, mining and construction industries; estimate the cost of upgrading those with the worst safety records to the level of those with the best safety records; and conduct a cost benefit analysis of improved working conditions for these companies.

/OCCUPATIONAL SAFETY/ - /WORKING CONDITIONS/ /INDUSTRIAL ENTERPRISES/
/ABSENTEEISM/ /LABOUR PRODUCTIVITY/ /COST-BENEFIT ANALYSIS/
$82885   24 months
-KOREAN SOCIAL SCIENCES RESEARCH COUNCIL, SEOUL, KR

83-0310 (HS)
WATER SUPPLY AND SANITATION (KOREA)

In the early 1970's, the Korean government initiated the "New Village Movement" program aimed at modernizing rural villages. Under this program, traditional water sources such as open wells and streams were replaced by simple piped water supply and excreta disposal systems. A major shortcoming of the program is that knowledge, attitudes and practices related to water use and excreta disposal were not assessed. This project will study the socio-cultural implications of introducing modern technology to traditional rural societies. Researchers will identify traditional methods for collecting, storing and distributing drinking water and for disposing and/or treating excreta; evaluate the impact of introduced piped water systems and improved sanitary facilities on community health and user behaviour; and, recommend changes in the Saemaul Undong program to improve its effectiveness.

/WATER SUPPLY/ - /SANITATION/ /TECHNOLOGICAL CHANGE/ /RURAL AREAS/
/BEHAVIOUR/ /CULTURAL FACTORS/ /SOCIAL ASPECTS/
$151000   24 months
-SEOUL NATIONAL UNIVERSITY, SEOUL, KR

83-0311 (HS)
Small-Scale Desalinators (Botswana)

The people of Botswana's Kalahari Desert, known collectively as Remote Area Dwellers (RADs), have almost no drinking water. Available surface water is often brackish, too salty for human consumption. Since 1977, the Solar Energy Section of the Rural Industries Innovation Centre (RIIC) has been conducting research on simple solar desalination. To date, seven prototype stills have been developed in the RIIC laboratory. The purpose of this project is to introduce desalinators to RAD communities, develop an appropriate training program for the operation and maintenance of these stills, and assess their technical performance, social acceptability, user preference and utilization patterns.

/desalinization/ /engineering design/ /solar energy/ /evaluation/
/maintenance and repair/ /training programmes/
$213400   36 months
-Rural Industries Promotions (Botswana), Gaborone, BW

83-0312 (HS)
EVALUATION OF PRIMARY CARE NURSE (DOMINICA)

To meet the need for an effective basic health care system, the government of Dominica has recently instituted a new cadre of health worker, the primary care nurse. This project will support the evaluation of the PCN in order to identify what might be needed to improve the effectiveness of the worker, such as curriculum changes. Specifically, knowledge, skills and attitudes of the PCN will be determined; job performance and community acceptance assessed; and the impact of the PCN on the community and on health services in general will be evaluated.

/NURSES/ - /PRIMARY HEALTH CARE/ /ATTITUDES/
$129720 36 months
-MINISTRY OF HEALTH, ROSEAU, DM

83-0313 (IS)
DEVSIS (BOTSWANA)

Recognizing the need to make better use of planning information, the government of Botswana has decided to establish the National Institute of Development Research and Documentation (NIR) as the primary focal point in a national information network. This project will enable NIR to strengthen its contacts with the development planning and research community, and to systematically identify and collect documents and unpublished literature related to Botswana's socioeconomic development. It will also permit Botswana to participate in the regional PADIS (Panafrican development information system) and more specifically in the PADIS-DEVSIS program. Training in DEVSIS methodology will be provided and a micrographics laboratory will be established. The principal output from the project will be two issues of Devindex-Botswana.

/DEVSIS/
$194000 24 months
-NATIONAL INSTITUTE OF DEVELOPMENT RESEARCH AND DOCUMENTATION, GABORONE, BW

83-0314 (IS)
ARCHIVE REPATRIATION (MALAWI, ZAMBIA, ZIMBABWE)

The accumulated governmental and administrative records of the defunct Federation of Rhodesia and Nyasaland (1953-1963) have been organized and preserved and are presently being held in the National Archives of Zimbabwe. The Federation of Rhodesia and Nyasaland was made up of the territories of Northern and Southern Rhodesia, and Nyasaland, known today respectively as Zambia, Zimbabwe and Malawi. The governments of Malawi and Zambia would like to have direct access to their archives and, jointly with Zimbabwe, have proposed their repatriation in film form. This project will provide training for staff members from the National Archives of Malawi, Zambia and Zimbabwe in the principles of micrographics and in the administration and operation of a micrographic production unit; and, will microfilm pages of the common records of the Federation of Rhodesia and Nyasaland, making copies available to the countries involved.

/ARCHIVES/ - /MICROFILMS/ /TRAINING COURSES/
$182000 18 months
-NATIONAL ARCHIVES OF ZIMBABWE, CAUSEWAY, ZW

83-0315 (HS)
PREVALENCE AND ETIOLOGY OF ENDEMIC GOITRE (LIBERIA)

Endemic goitre continues to be one of the most important health problems faced by developing countries, but epidemiological and aetiological information critical to health planning is lacking. This project will improve this situation by studying an endemic area of Liberia, Nimba county, to detemine the extent of the goitre problem, its aetiology, and its biochemical and environmental parameters. Findings of the study will facilitate the formulation of a health strategy to eradicate this disease.

/ENDEMIC DISEASES/ - /DEFICIENCY DISEASES/ /EPIDEMIOLOGY/ /DISEASE CONTROL/
$138960 24 months
-UNIVERSITY OF LIBERIA, MONROVIA, LR

83-0316 (IS)
SAHELIAN INFORMATION NETWORK (OPERATIONAL PHASE)

Since its inception in 1979 RESADOC (Sahelian Scientific and Technological Information and Documentation Network) has assisted member state in setting up permanent information systems at the national and regional level in the African Sahel. Part of its mandate has been to collect, process and diffuse scientific and technical information that corresponds to the activities of CILSS (Permanent Interstate Committee for Drought Control in the Sahel). The operational phase of this project will allow RESADOC to expand its programs and training activities and will initiate Sahelian involvement in POPIN-Africa, a network which collects and disseminates demographic information.

/INFORMATION NETWORK/ - /SAHEL/ /TECHNICAL INFORMATION/ /REGIONAL COOPERATION/
$577000 36 months
-INSTITUT DU SAHEL, BAMAKO, ML

83-0317 (HS)
WATER QUALITY CONTROL (SOUTHEAST ASIA)

The provision of adequate quantities of drinking water in developing countries is often hindered by the lack of a realistic standard for assessing the water's quality. Unfortunately, due to technical and bureaucratic constraints, this important activity is often low on the list of priorities. The aim of this research project is to develop and introduce a simple, rapid, and inexpensive test for assessing the bacteriological quality of water. Researchers from Singapore, Malaysia and Thailand will collaborate in comparing and evaluating tests for screening water; develop a scheme for classifying water according to degree of contamination; develop a field kit and procedures manual for the most appropriate test; and, introduce the new testing procedure and classification scheme to appropriate government authorities in the region.

/WATER QUALITY/ - /DRINKING WATER/ /TESTS/ /TESTING/ /APPROPRIATE TECHNOLOGY/ /BACTERIOLOGY/ /WATER POLLUTION/ /CLASSIFICATION/ /POLLUTION LEVEL/
$183900 24 months
-NATIONAL UNIVERSITY OF SINGAPORE, SINGAPORE, SG
-NATIONAL UNIVERSITY OF MALAYSIA, KUALA LUMPUR, MY
-MAHIDOL UNIVERSITY, BANGKOK, TH
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE, SINGAPORE, SG

83-0318 (SS)
MIGRATION, REMITTANCES AND RURAL DEVELOPMENT (KENYA) - PHASE II

Remittances sent home by migrant workers are often an important component of the local economy. The first phase of this project provided a detailed and comprehensive picture of levels and utilization of remittances in Kenya. The second phase will describe the extent to which remittances have been mobilized by community welfare organizations (CWOs) in three provinces of Kenya, and their effects on rural development. Evidence exists that these locally-initiated CWOs, drawing heavily on remittances, are providing farm credit, developing local infrastructures and transferring improvements in agricultural technology in their communities. Researchers will document the activities of the CWOs, assess their impact, and assess the effects of remittances on income distribution.

/REMITTANCES/ - /COMMUNITY DEVELOPMENT/ /SOCIAL SERVICES/ /RURAL DEVELOPMENT/ /INCOME DISTRIBUTION/
$112600 24 months
-UNIVERSITY OF NAIROBI, NAIROBI, KE

83-0319 (AFNS)
FARMING SYSTEMS (SIERRA LEONE)

About 60 percent of rice production in Sierra Leone is cultivated by the traditional slash and burn method. Increasing population pressures, however, are reducing the fallow period which in turn is causing a serious decline in soil fertility. There is, therefore, urgent need to design improved more intensive systems of crop production in which the fallow period is either reduced or eliminated. This project will enable the establishment of a pilot farming systems research unit which will work out a suitable methodology for farming systems research and later apply it throughout the country. Researchers will gather information on existing patterns of agricultural production; identify constraints to production, processing, marketing and obtaining agricultural inputs; and collaborate with farmers to identify and test appropriate technologies.

/FARMING SYSTEMS/ - /ON-FARM RESEARCH/ /AGRICULTURAL PRODUCTION/ /CULTIVATION SYSTEMS/ /AGRICULTURAL EXTENSION/
$295600 36 months
-MINISTRY OF AGRICULTURE AND FORESTRY, FREETOWN, SL

83-0320 (IS)
Information Service on Wheat and Other Small Grains

Centro Internacional de Mejoramiento de Maiz y Trigo (CIMMYT) is a non-profit, agricultural research and training institution which supports the research efforts of wheat and maize-producing developing countries. This project will enable CIMMYT to establish an information and document-delivery service for the benefit of scientists conducting research on wheat and other small grains in the developing world. Specifically, the project will establish a Scientific Information Unit and integrate the CIMMYT library within it; improve CIMMYT's capacity to respond to scientific questions from developing country research workers; and deliver bibliographic services to up to 700 individuals and institutions in developing countries.

/wheat/ /information services/
$388655 36 months
-Centro Internacional de Mejoramiento de Maiz y Trigo (CIMMYT), Mexico, MX

83-0321 (FAD)
GRADUATE FISHERIES ECONOMICS SPECIALIZATION PROGRAM - UPM (MALAYSIA)

In order to encourage fishery development in Southeast Asia, researchers need to be trained in fishery economics. In 1981, the Department of Natural Resource Economics of the National Universiti Pertanian Malaysia (UPM) decided to initiate a MSc degree program with specialization in fishery economics. The first eight MSc students were admitted to UPM in July 1983. They were from Thailand, Indonesia, Philippines and Malaysia. This project aims to enable UPM to offer 12 MSc fellowships over the next two years to researchers in southeast Asian countries. Project funds will go towards administering, coordinating and monitoring the MSc program in fishery economics and will strengthen the capability of university staff to offer and service the program.

/FISHERY ECONOMICS/ - /HIGHER EDUCATION/ /RESEARCH FELLOWSHIPS/ /FISHERY RESEARCH/
$265000 48 months
-UNIVERSITY PERTANIAN, SELANGOR, MY

83-0323 (SS)
INCOME, EDUCATION AND RURAL MIGRATION (COLOMBIA)

This project seeks to examine the forces that tend to nurture and the forces that tend to break down the traditional structure of production and labour force participation in the Colombian rural economy, with reference to distrinct socioeconomic groups and regions. Specifically, the project will develop a classification of various social groups according to their level of participation in the economy and income; determine the sources and levels of household income for these social groups; analyze household migration patterns and trends; and analyze household levels of education.

/MANPOWER/ - /RURAL AREAS/ /INCOME/ /SOCIAL CLASSES/ /EDUCATIONAL LEVEL/ /INTERNAL MIGRATIONS/
$84200 9 months
-INSTITUTO SER DE INVESTIGACION, BOGOTA, CO

83-0324 (HS)
EPIDEMIOLOGY TRAINING (CHINA) - PHASE II

Phase I of this project provided funds for 30 Chinese health care workers to be trained in epidemiology in Canada. Two groups of Chinese doctors have received language training at IDRC and medical training at Canadian universities. This phase of the project will allow a third group to be trained.

/EPIDEMIOLOGY/ - /TRAINING PROGRAMMES/ /SCIENTIFIC COOPERATION/ /PUBLIC HEALTH/
$450410 12 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

83-0325 (HS)
DIAGNOSIS OF BLOOD PARASITES (BOLIVIA)

Tropical diseases characterized by blood-borne parasites are a major public health problem in Bolivia, with recent studies indicating the presence of Chagas' disease, malaria, and filariasis in the country. All three of these diseases are diagnosed by the examination of peripheral blood. Researchers have been examining the use of microhematocrits to diagnose acute Chagas' disease. This involves centrifuging a microhematocrit tube filled from a small drop of finger tip blood for five minutes, and then examining the blood in the tube directly under a microscope. The microhematocrit method is less time-consuming than more traditional methods of diagnosis, and has been investigated in malaria and filariasis. This project will evaluate the microconcentration method against more traditional methods of diagnosing blood parasites, and adapt it for use in the field.

/TROPICAL DISEASES/ - /DIAGNOSIS/ /BLOOD/ /PARASITES/
$37092 24 months
-NATIONAL CENTRE FOR TROPICAL DISEASES, SANTA CRUZ, BO

83-0326 (COMM)
"PATHS TO DEVELOPMENT" - A DEVELOPMENT EDUCATION LEARNING MODULE

The majority of high school students in Canada are either unaware of or indifferent to the problems facing Third World countries. Many Canadian educators now feel it is critical that students begin to realize how interdependent the nations of the world are. The objective of this project is to produce a one-semester learning "package" for senior high school students consisting of six 30-minute videotape programs (for classrooms and broadcast use); a student reference booklet; a comprehensive teachers' guide; and a microcomputer programme that will simulate a "real world economic system". It is hoped that the package will help Canadian students achieve an awareness, an understanding, an acceptance and, for a few perhaps, a commitment to global interdependence.

/ECONOMIC AND SOCIAL DEVELOPMENT/ - /INFORMATION DISSEMINATION/ /COURSES/ /AUDIOVISUAL AIDS/
$50000 18 months
-ALBERTA EDUCATIONAL COMMUNICATIONS CORPORATION, EDMONTON, ALBERTA, CA

83-0327 (HS)
STUDY OF AVAILABLE DEVELOPMENT AID RESOURCES FOR THE HEALTH SECTOR

The Seventh Commonwealth Health Ministers meeting, held in Ottawa, October 2-7, 1983, restated that Commonwealth countries have accepted the World Health Organization (WHO) goal of health for all by the year 2000. Many of the representatives expressed concern about the time-consuming and complex processes involved in obtaining international assistance. Together with Health and Welfare Canada, IDRC will provide the necessary financial resources to develop an inventory of major national and international organizations providing development assistance for water supply and sanitation. The terms of reference, types and mechanisms of support of these institutions will also be described. A study of selected Commonwealth countries will be carried out in order to identify their water supply and sanitation needs and resources.

/DEVELOPMENT AID/ - /AID FINANCING/ /AID COORDINATION/ /AID INSTITUTIONS/
$173700 12 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

83-0329 (HS)
SCOLIOSIS (CHINA)

Scoliosis is a major problem leading to the development of serious spinal deformities which affects 2-4 percent of the population in North America. The prevalence of scoliosis in China is not known but is expected to affect the same percentage of the population as is seen elsewhere. This study will determine the prevalence of scoliosis in China. Specifically, a target population of two age groups, children aged 8-14 years and adults 45 years and over, will be studied to determine the incidence of the condition and the degree of disability, both physical and psychological. Children, diagnosed as having the condition, will be fitted with braces to prevent the increase of deformity.

/CHRONIC DISEASES/ - /DISABILITY/ /PSYCHOLOGICAL ASPECTS/ /MEDICAL CARE/
$212090 24 months
-CAPITAL HOSPITAL, BEIJING, CN

83-0330 (HS)
CIMDER (Colombia) - Phase II

The organization known as CIMDER (Centro de Investigaciones Multidisciplinarias en Desarrollo Rural) grew out of an IDRC project "Rural Health Development Program". The objective of the project was to design, implement and evaluate a system for delivery of rural health services in Colombia. The project had a major impact on primary health care programs in rural areas but because of financial and other problems, CIMDER has been unable to validate the project model or to document and publish the experiences arising from it. Phase II will provide CIMDER with institutional support necessary for continued research on the rural health model.

/health services/ /rural areas/ /health planning/ /models/
$890055 60 months
-Fundación para la Educación Superior (FES), Cali, CO

83-0331 (AFNS)
TILAPIA GENETICS/ECONOMICS (PHILIPPINES)

Tilapia farming is the fastest growing sector of the Philippine aquaculture industry, mainly as a result of the introduction of Oreochromis niloticus, a tilapia species exhibiting better growth characteristics than previously-introduced Oreochromis mossambicus. Recent studies indicate that most experimental and commercial stocks of O. niloticus are contaminated with O. mossambicus. If tilapia is to retain its momentum as a cultured species, control of broodstock quality is essential. This project will develop an improved system for management of tilapia broodstock. Researchers will investigate genetic characteristics of tilapia and determine costs and returns of alternative hatchery systems (e.g. land- and water-based systems of alternative design and management).

/FISH CULTURE/ - /GENETICS/ /FISH BREEDING/ /COST-BENEFIT ANALYSIS/
$38400 12 months
-INTERNATIONAL CENTRE FOR LIVING AQUATIC RESOURCES MANAGEMENT (ICLARM), MANILA, PH

83-0332 (SS)
EVALUATION OF SCIENCE AND TECHNOLOGY DECISION MAKING (PERU)

The Consejo Nacional de Ciencia y Tecnologia (CONCYTEC) was created in 1981 as the principal policymaking institution for science and technology in Peru. CONCYTEC is responsible for all government support for science and technology institutions, with the exception of Crown Corporations. Because of the overlapping responsibilities of a number of these institutions, CONCYTEC has been requested by the government to undertake an analysis of current funding patterns and institutional responsibilities with the objective of eliminating overlap and duplication of effort. Researchers will describe the present structure of public sector institutions involved in science and technology activities; and examine the resources controlled or used by the institutions and the type and effect of decisions made.

/SCIENCE POLICY/ - /DECISION MAKING/ /INSTITUTIONAL FRAMEWORK/
$75000 12 months
-DEVELOPMENT STUDY GROUP, LIMA, PE

83-0333 (SS)
PILOT COURSE ON TELEVISION (CHILE) - PHASE II

The expansion of television in Chilean society has aroused interest in promoting better viewing habits among children. In phase I of this project, the Centro de Indagacion y Expresion Cultural y Artistica (CENECA) developed a manual for teachers and parents on how to teach children between the ages of 10-18 to watch television more critically and selectively. The manual consists of 11 self-contained units with guidelines and low-cost teaching materials for group work in the classroom. Given that the manual was originally designed for use in middle class urban settings, CENECA now proposes to adapt it to the language, concepts, and TV havits of lower class youth. The new manual would be used by community associations and appropriate organizations.

/TELEVISION/ - /SCHOOL AGE POPULATION/ /LOWER CLASS/ /YOUTH/
$17200 9 months
-CENTRO DE INDAGACION Y EXPRESION CULTURAL Y ARTISTICA (CENECA), SANTIAGO, CL

83-0336 (COMM CP FAD)
Editing and Publication Production Training (Asia)

Research institutions in Asia are limited in their ability to effectively disseminate their work due to the lack of well-trained scientific editors. This project, a cooperative effort between the University of Toronto Press and the International Rice Research Institute will provide practical training to 48 editors responsible for publishing activities at national research centres. The training will involve classroom instruction, one-on-one tutoring, and publication production training.

/writing and editing/ /training courses/ /publishing/ /curriculum development/
$578314 36 months
-International Rice Research Institute (IRRI), Manila, PH

83-0337 (SS)
POPULAR CULTURE AND THE POPULAR PRESS (CHILE)

Popular culture can be defined as the collective and individual beliefs, identities, and acts of the "popular" or lower-class sectors. It has been identified as an important component of development, particularly in countries where these sectors are gaining new power though the expansion or reintroduction of democracy. Researchers at the Centro de Indagacion y Expresion Cultural y Artistica (CENECA) in Santiago, Chile, believe that the influence of mass media on popular sectors and popular expression through the media urgently need to be studied in the context of the current move toward democracy in Chile. In this project, researchers will describe the content and style of the press (bulletins, newspapers, magazines) produced over the last 25 years by peasants, workers, and slum-dwellers in Chile and will examine its relationship to the wider socio-political milieu of Chile's recent democratic and authoritarian regimes.

/PRESS/ - /CULTURAL IDENTITY/ /SOCIAL CLASSES/ /POLITICAL DEVELOPMENT/ /SOCIAL CHANGE/ /DEMOCRATIZATION/
$75700 18 months
-CENTRO DE INDAGACION Y EXPRESION CULTURAL Y ARTISTICA (CENECA), SANTIAGO, CL

83-0338 (SS)
CULTURAL POLICY IN ARGENTINA

Popular culture, defined as the social and individual beliefs, identities, and acts of the "popular" or lower-class sectors has been identified as an important component of the development process, particularly in countries where these sectors are gaining new power through the expansion of or re-introduction of democracy. The Argentine government is withdrawing from its previous role of censor and assuming a more positive role as a supporter of popular culture and the participation of popular sectors in cultural activities. This project will examine the evolution and implementation of cultural policy in Argentina particularly as it relates to the development and use of media such as television. Researchers will determine to what extent cultural policy can affect - or is affected by - Argentina's process of re-democratization.

/CULTURAL POLICY/ /policy making/ /INTEREST GROUPS/ /TELEVISION/ /social participation/ /DEMOCRATIZATION/
$84000 24 months
-CENTRE FOR GOVERNMENTAL AND SOCIAL STUDIES (CEDES), BUENOS AIRES, AR

83-0339 (SS)
FISHERIES DEVELOPMENT (URUGUAY)

Since 1973, the fisheries sector in Uruguay has experienced dramatic growth. The largely unexploited marine resource base, the development of a high technology processing industry and the growth in world demand for fish products have placed Uruguay in an important position in Latin American fisheries. Moreover, government policies and programs appear to have fostered the development of the industry by being well designed and efficiently implemented. In this project, researchers will identify large fish processing enterprises and examine their historical growth patterns and institutional relationships with a view to shedding light on the role of government economic and investment policies in Uruguay's fisheries development.

/FISHERY DEVELOPMENT/ - /FISHERY PRODUCT PROCESSING/ /FISHERY INDUSTRY/ /OWNERSHIP/
$70800 12 months
-CENTRE FOR INTERDISCIPLINARY RESEARCH ON DEVELOPMENT IN URUGUAY (CIEDUR), MONTEVIDEO, UY

83-0340 (SS)
EDUCATION AND WORK: THE ROLE OF TECHNICAL EDUCATION IN ARGENTINA

The transition from school to work and the role of the educational system in training individuals to perform as producers in the labour market have been constant preoccupations of teachers, educational planners, and economists in developing countries. Researchers in this project expect to contribute to an increasingly important debate about priorities in technical and vocational preparation of young people in Argentina. Specifically, the project will investigate the following factors and how they interrelate: types of technical schools; specialties chosen by graduates; specialties and industries in which graduates actually end up working; and the impact of graduates' education on their work.

/TECHNICAL EDUCATION/ - /TRANSITION FROM SCHOOL TO WORK/ /CURRICULUM/
$84500 24 months
-CENTRE FOR POPULATION STUDIES (CENEP), BUENOS AIRES, AR

83-0341 (SS)
URBAN HOUSEHOLD ENERGY SURVEY (CHINA)

Energy development is now a central issue in the current development strategy of the People's Republic of China. It is expected that energy consumption in urban households will expand rapidly up to the year 2000. Chinese researchers report however, that there is little detailed information on the consumption patterns, and that future policy will be difficult to implement without such knowledge. This project will survey the current consumption and supply of inanimate energy in households in four typical cities in China; incorporate the results into a mathematical model in order to examine the consequences of changes in urban household energy consumption; and develop a set of computerized visual aids in Chinese characters to allow the survey results and modelling to be used in training researchers and policymakers.

/ENERGY CONSUMPTION/ - /POWER DEMAND/ /URBAN AREAS/ /PROJECTIONS/
/MATHEMATICAL MODELS/ /DEVELOPMENT STRATEGY/
$87000 24 months
-INSTITUTE OF NUCLEAR ENERGY TECHNOLOGY, BEIJING, CN

83-0342 (SS)
LABOUR MIGRATION (GAZA STRIP)

Difficult political, economic and social conditions in the occupied Gaza Strip have resulted in limited employment opportunities in Palestine and a high rate of permanent emigration and shorter-term labour migration, especially to Israel. This poses serious problems for Palestinian leaders, who are concerned with the deterioration of the local economy and permanent settlement outside Palestine. This project will study the work patterns of families in the Gaza Strip, focusing on geographic location and type of employment; determine motivations for workers' choices; and examine how these motivations relate to family income, possesion of land, education, etc. To the extent that Palestinian leaders have control over local conditions, the research findings should have important policy implications for planning, particularly in the areas of worker education and job creation.

/LABOUR MIGRATIONS/ - /EMPLOYMENT/ /OCCUPATIONS/
$12500 12 months
-ARAB STUDIES SOCIETY, EAST JERUSALEM, IL

83-0343 (SS)
RURAL DEVELOPMENT EXPERIENCE (INDIA)

Rural development, defined as an overall improvement of the quality of life for rural people, has been an increasingly important objective in India, both for Government and for private organizations. This project will support participation in a seminar to evaluate Indian rural development experience both by scholars who have prepared papers and rural development policymakers and administrators. The seminar is to be held in December 1984, under the auspices of the Indian Society of Agricultural Economics. Seminar papers will shed light on rural development policy, planning and program administration. Case studies of significant rural development projects or programs will provide insight from field experience and provide empirical backup to the more general discussions on the rural development issues.

/RURAL DEVELOPMENT/ - /EVALUATION/
$82000 10 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

83-0344 (SS)
SMALL REGIONAL GRANTS (PERU)

Provincial governments in Peru lack the trained personnel needed to evaluate policy alternatives. This project will enable FONCIENCIAS (Asociacion Peruana para el Fomento de las Ciencias Sociales) to administer a program of small grants designed to build the research capacity of provincial universities. Specifically, the project will identify promising researchers and institutions in the provincial areas of Peru; contribute to the training of these researchers through frequent advisory and consultative workshops; and support policy-relevant research in the area of economics and rural development.

/SOCIAL RESEARCH/ - /ORGANIZATION OF RESEARCH/ /ECONOMICS/ /RURAL DEVELOPMENT/
$78700 16 months
-PERUVIAN ASSOCIATION FOR THE PROMOTION OF SOCIAL SCIENCES, LIMA, PE

83-0345 (SS)
TECHNOLOGY POLICY WORKSHOP DISSEMINATION PHASE (GLOBAL)

Between June 1981 and December 1983, IDRC supported a series of Technology Policy Workshops hosted by institutions in developing countries in Africa and the Caribbean. The principal objective of the series was to train 60 to 80 researchers and policymakers in the techniques, approaches and use of technology policy research. The material assembled for the workshop is considered one of the most complete and up-to-date collections of technology policy literature. This project will make possible the consolidation and dissemination of the literature and teaching materials generated from the policy workshops. The information will take the form of a French-language reader including a bibliography and review essays covering major research and policy themes; and, an English-language reader which consolidates the bibliographies and lecture material.

/SCIENCE POLICY/ - /DOCUMENTATION/ /ANNOTATED BIBLIOGRAPHY/
$76600 12 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

83-0346 (SS)
INSTITUTIONAL SUPPORT GRANT - CEDES (ARGENTINA)

The Centre for Studies on State and Society (CEDES) is a nonprofit research centre founded by a group of leading social scientists in Argentina. CEDES was established in 1975 and since that time has built up a strong reputation in regional and international economics, political theory, public policy and the role of the state, population studies, and the analysis of living standards among low-income urban groups. The purpose of this grant is to provide institutional support to CEDES for two years. Project funds will support CEDES' research programs, provide training for junior researchers, and aid in the publication of research results.

/SOCIAL RESEARCH/
$93750 24 months
-CENTRE FOR GOVERNMENTAL AND SOCIAL STUDIES (CEDES), BUENOS AIRES, AR

83-0347 (FAD)
GROUP TRAINING COURSE ON URBANIZATION IN DEVELOPING COUNTRIES - PHASE II

Research into urban problems has been of major interest to the governments of developing countries. Phase I of this project supported a course on Third World urbanization and household economy, offered by the International Geographical Union. The course was designed to train participants in the use of the latest techniques and methods of research and analysis, including theories and models applicable to urbanization in developing countries. Thirteen participants from seven countries in the Asia and Pacific region atttended. To generate and create a wider pool of trained researchers in the region, a second training course will be held on the same theme at the Universiti Sains Malaysia (USM) in Penang and will be aimed at students, researchers, planners, and policymakers.

/URBANIZATION/ - /URBAN DEVELOPMENT/ /RESEARCH METHODS/ /TRAINING COURSES/
$66000 1 months
-UNIVERSITI SAINS MALAYSIA, PENANG, MY

83-0348 (SS)
INTERNATIONAL CONTRACT LABOUR (THAILAND)

Thailand is one of several Asian countries that have been sending an increasingly large number of contract workers to the Middle East. Little is known of the effects of international contract labour on the economic, demographic, and social conditions at the individual, household, and community levels. This project will study the socioeconomic profile of individual migrant workers; the effects of outmigration on agricultural production and the agricultural labour force in northern Thai villages; the transfer and use of Middle Eastern remittances by the migrants' families and sending communities; and the social and cultural impacts of migration on households and communities, in terms of changing roles, values and aspirations.

/LABOUR MIGRATIONS/ - /THAI/ /MIGRANT WORKERS/ /ECONOMIC IMPLICATIONS/
/REMITTANCES/ /CONTRACT LABOUR/
$86600 30 months
-CHIANG MAI UNIVERSITY, CHIANG MAI, TH

83-0349 (SS)
ARTISANAL FISHERIES (SENEGAL)

The Casamance district of Senegal makes a crucial contribution to the food needs of this drought-stricken country. The district's harvest season and the period of highest fish catch coincide, however, with the result that the two activities compete for attention. This project will explore the relationship between fishing and agriculture in Casamance, the ways in which local people manage fish and farm resources, and the means by which conflicting demands for limited fisheries resources by different ethnic groups can be reconciled. Researchers will examine possible conflicts between tourism and small-scale (artisanal) fisheries and ways in which they can be resolved; look at the labour organization of fishing communities; compare traditional and governmental systems of regulating fishing seasons and catches; and describe the channels by which artisanal fish catch is marketed in the region.

/REGIONAL DEVELOPMENT/ - /FISHERY RESOURCES/ /FISHERY MANAGEMENT/ /FISHERY PLANNING/ /FOOD PRODUCTION/ /MANPOWER NEEDS/ /SEASONAL FLUCTUATIONS/
$67000 20 months
-INSTITUT SENEGALAIS DE RECHERCHES AGRICOLES (ISRA), DAKAR, SN

83-0350 (FAD)
RESEARCH FELLOWSHIP: DR. ROGER DOYLE

This project will provide funds for a Research Fellowship for Dr. Roger Doyle of the Department of Biology, Dalhousie University, Halifax, Nova Scotia. Dr. Doyle has been involved in several IDRC projects as advisor, consultant and organizer. This grant will enable Dr. Doyle to assist regional centres and organizations in the Asian region in developing programs in fish genetics and to strengthen the linkages between Dalhousie University and centres in the region.

/FISHERY RESEARCH/
$20570 12 months
-DOYLE, DR. ROGER, HALIFAX, CA

83-0351 (FAD)
RESEARCH FELLOWSHIP: DR. RALPH MILLER

This project will provide funds for a Research Fellowship for Dr. Ralph Miller, a senior Canadian academic with the Department of Educational Policy and Administrative Studies of the University of Calgary, Alberta. Dr. Miller will review literature on recent and current educational planning in selected African countries in order to study the nature and feasibility of long-range educational planning.

/EDUCATIONAL PLANNING/
$9188 12 months
-MILLER, DR. RALPH, CALGARY, ALBERTA, CA

83-0352 (FAD)
FELLOWSHIPS IN CURRICULUM PLANNING

This project will enable five researchers from developing countries to attend the University of London's Institute of Education Advanced Curriculum Planning Course held each year from April 25 to July 18. The course covers seven key areas: context and situational analyses; a case study in curriculum decision-making; curriculum design; materials production; curriculum development and implementation; examinations and curriculum change; and the evaluation of curriculum projects.

/CURRICULUM/ - /CURRICULUM DEVELOPMENT/ /EDUCATIONAL PLANNING/ /TRAINING COURSES/
$48400 18 months
-UNIVERSITY OF LONDON, LONDON, GB

83-1002 (CP)
Gore-Gambela Geotraverse

For Ethiopia, mineral production has never been a substantial part of the economy. Geologically, however, the basement rocks that make up an important part of Western Ethiopia, are the same rock types that account for most mineral production in some of the main mineral-producing countries of Africa and the world. Before any plans can be made for the development of the mineral resources, reliable information is needed on the distribution, size and value of these resources. The Ethiopia,n government has set as a priority the detailed geological study of areas likely to bear minerals. This project will investigate the geological evolution of the Mozambique Belt, and particularly the relationship between geological characteristics (stratigraphy, structure, magmatism and metamorphism) and the economic potential of mineral deposits; strengthen the research capability of Ethiopia,n geological organizations; and create a favorable climate for scientific cooperation.

/GEOLOGY/ - /MINERAL RESOURCES/ /GEOLOGICAL MAPS/ /GEOMORPHOLOGY/
/GEOLOGICAL SURVEYS/ /SCIENTIFIC COOPERATION/
$483559 36 months
-International Development Research Centre (IDRC), Ottawa, Ontario, CA
-Ottawa-Carleton Centre for Geoscience Studies, Ottawa, Ontario, CA
-Addis Ababa University. Department of Geology, Addis Ababa, ET

83-1003 (CP)
River Bank Erosion Impact Study in Bangladesh

Every year in Bangladesh substantial tracts of land are lost through river bank erosion and the changing course of swollen river channels during the monsoon rains, forcing the dislocation of many peasants. There is a need for socioeconomic research on the problems created by this annual phenomenon. The objectives of this project are to evaluate the long-term trends in shifts in river courses, with a view to developing forecasting techniques and models for rural planners; and to assess the socioeconomic and demographic impact of the annual involuntary migrations of the rural peasant population, and develop policy options to reduce the dislocating effect of the annual floods.

/soil erosion/ /rivers/ /river basins/ /floods/ /rural planning/ /social implications/ /economic implications/ /population transfers/ /adaptation/
/forecasting techniques/
$346047 36 months
-Jahangirnagar University, Dhaka, BD
-University of Manitoba, Winnipeg, CA

83-1004 (AFNS CP)
Natural Pesticides (Carleton University)

Cowpeas are an important source of protein in West Africa. But production is often neglected due to a high risk of attack by bruchid beetles (Callosobruchus spp.), which can cause losses up to 40 percent. Two modern ways of controlling bruchids, the use of airtight oil drums for storage and the importation of insecticides, have not met with success, and both methods are expensive. In Upper Volta current IDRC-supported research is investigating the traditional practice of mixing plant material from two local weeds (Hyptis spicigera and Cassia nigraicans) into cowpea storage containers. This has the apparent effect of reducing bruchid damage. In order to extend the application of these plants, this project will determine their active compounds, potential effectiveness, and safety.

/PEST CONTROL/ /COWPEAS/ /STORAGE/ /PLANTS/ /CHEMICAL ANALYSIS/ /ARID ZONE/
$18900 6 months
-Carleton University. Department of Biology, Ottawa, Ontario, CA

83-1005 (SS CP)
HOUSEHOLD RESPONSES TO INDUSTRIAL-URBAN CHANGE (MALAYSIA)

The State of Penang in Malaysia deliberately chose an industrialization policy 15 years ago under circumstances that were economically promising and socially compelling. Yet many of the issues related to rapid urban industrialization--such as the long-term role and impact of transnational corporations, their labour commitment, the growth and stability of the labour force, effects on family formation--are ones for which policymakers lack reliable data to base new legislative and administrative measures. The general objective of this project is to conduct an in-depth examination, at the household level, of the relationships between the processes of industrialization, urbanization, labour force formation and their impact on the larger social and economic structures.

/INDUSTRIALIZATION/ - /URBANIZATION/ /RURAL MIGRATIONS/ /FOREIGN INVESTMENTS/ /MULTINATIONAL ENTERPRISES/ /SOCIAL IMPLICATIONS/
$95200 36 months
-UNIVERSITY OF BRITISH COLUMBIA, VANCOUVER, CA
-UNIVERSITI SAINS MALAYSIA, PENANG, MY

83-1006 (HS CP)
Sperm Inhibiition (Chile) - Phase III

Over the past three decades, great advances have been made in the field of female contraception. By contrast, little attention has generally been directed to research into methods of fertility regulation which involve the male reproductive system. If advances are to be made in this area, a better understanding of the physiology, biochemistry and immunology of the male reproductive system is required. Phases I and II of this project investigated immunological aspects of sperm enzymes essential for fertilization and how they could be inhibited in their action. In phase III, anti-sperm antibodies will be used to identify and isolate important sperm antigens; and researchers will test the ability of the antibodies to interfere with sperm motility and sperm-egg interactions. Phase III represents the logical continuation of work begun in phases I and II, and could lead to the development of an immunological approach to the control of fertility.

/contraception/ /males/ /enzymes/ /immunology/
$466420 36 months
-Pontificia Universidad Catolica de Chile. Facultad Ciencias Biologicas, Santiago, CL
-Queen's University. Department of Biochemistry, Kingston, Ontario, CA

83-1008 (SS CP)
Macroeconomic Management (Tanzania)

Over the past three years Tanzania has experienced a decline in its real gross domestic product, accompanied by high inflation, an acute shortage of foreign exchange, and growing unemployment. The country's poor economic performance is attributed to structural and external problems, compounded by inappropriate economic policies. The principal objective of this project is to formulate an economic policy model for Tanzania based on studies of the agricultural, industrial, governmental and external sectors of the economy. The model will provide insights into the structure of the economy and the impact of changes in macroeconomic policy instruments (i.e. public investment, the exchange rate and the interest rate) on agricultural and industrial output.

/economic policy/ /econometric models/ /macroeconomics/ /stabilization/
$179000 24 months
-University of Dar es Salaam, Dar es Salaam, TZ
-University of Toronto. Department of Economics, Toronto, Ontario, CA

83-1009 (SS CP)
Schooling, Cognition and Work : Outcomes of Primary Education in Kenya

It is widely assumed that primary education imparts cognitive skills applicable across a wide range of occupations and work settings in the subsistence and salaried sectors. This project will examine the importance of primary schooling in Kenya in preparing students to think in ways that will be useful to them in later years as members of the labour force. Researchers will undertake a series of school studies which will examine the learning and teaching of cognitive processes (e.g. decision-making, classification and logical sequencing) encouraged and used within the school setting; identify the thinking skills required in simple and complex work settings; and disseminate the research findings in ways that will influence educational policy and practice in the areas of curriculum planning, development and evaluation, supervision of instruction and teacher education.

/educational research/ /educational theory/ /primary education/ /learning/ /schooling/ /transition from school to work/
$170000 24 months
-McGill University. Special Funds Office, Montréal, Québec, CA
-Kenyatta University College, Nairobi, KE

83-1010 (AFNS CP)
Fish Gametes (Victoria / Memorial) - Phase II

It is clear that fish-farming in the developing world cannot rely on seed from natural sources, and that the production of fry under controlled conditions must increase. Fish breeders in China now use a synthetic version of the hormone LRH-A to stimulate ovulation and spawning in female carp, processes that do not occur naturally in captivity. This is helping to increase the supply fingerlings for commercial fish farms. Phase II of this project will continue work begun in phase I on the role of the hormone LRH-A in stimulating fish reproduction. Researchers will investigate the nature and function of the hormone LRH-A in milkfish and other species of importance to aquaculture in Asia and Africa; and improve upon techniques of inducing spawning in these species. Research begun in phase I on techniques for cold storage of gametes (spermatozoa and ova) will also continue in the second phase.

/fish culture/ /fish breeding/ /fish production/
$403100 24 months
-University of Victoria. Department of Biology, Victoria, British Columbia, CA
-Memorial University of Newfoundland. Marine Sciences Research Laboratory, St. John's, CA

83-1011 (AFNS CP)
Induced spawning (Alberta / China)

In 1979 China produced about 0.81 million tons of fish from freshwater fish culture, which represents the largest production of cultured freshwater fish in the world. Because the major Chinese carps do not ovulate and spawn naturally in the confinement of ponds, a highly effective and cheap ovulating agent was sought. In 1974, the practical application of a synthetic analogue of luteinizing hormone-releasing hormone (LRH-A) was introduced in China for the induction of ovulation and spawning of cultivated fishes. It was found that LRH-A activity was increased with the injection of dopamine antagonist drugs. This project will develop an optimal system for inducing spawning in fish species of importance to Chinese aquaculture, using LRH-A and dopamine antagonist drugs.

/fish culture/ /fish breeding/ /fish production/ /biochemistry/
$307300 36 months
-University of Alberta. Department of Zoology, Edmonton, Alberta, CA
-Zhongshan University. Department of Biology, Guangzhou, CN

83-1012 (AFNS CP)
Dry Beans (University of Guelph / Chile)

Grain legumes have a current worldwide annual production of over 50 million tonnes of which common beans (Phaseolus vulgaris) account for about 10 M t. Researchers have tried to overcome the hard-to-cook property of beans which develops during storage. The objective of this project is to improve the quality of stored, dried Phaseolus beans. Researchers will determine the biological changes that contribute to hardness during storage; develop simple and inexpensive postharvest technologies to stop hardening of beans, improve their keeping quality and reduce cooking times; and determine optimal storage conditions for different dry bean varieties.

/beans/ /post-harvest systems/ /storage/
$246200 36 months
-University of Guelph, Guelph, Ontario, CA
-Pontificia Universidad Catolica de Chile, Santiago, CL

83-1013 (SS CP)
Facilitating Nursery to Grade One transition (Guyana / Alberta)

Since 1976, the government of Guyana has made preschool education accessible to all children between the ages of three and five. It is a system of education that attempts to develop the whole child through informal, experience-based teaching, play and stimulative materials. However, the educational benefit of the system is apparently being lost in the transition between the progressive nursery school and the rigid and academically traditional grade one. This project will develop, implement and evaluate an in-service training program for grade one teachers focussing on teaching strategies and curriculum development to ease the transition from the preschool to the primary setting.

/teacher training/ /preschool education/ /primary education/ /quality of education/ /teaching practice/ /teaching methods/
$26300 24 months
-Guyana. Ministry of Education, Georgetown, GY
-University of Alberta. Department of Elementary Education, Edmonton, Alberta, CA

83-1014 (FAD CP)
YOUNG CANADIAN RESEARCHERS AWARDS

The Young Canadian Researchers Awards were introduced in 1982-83 with the intention of encouraging the involvement of young Canadian researchers in scientific areas of concern to IDRC and to give them, at the same time, exposure to problems of Third World countries. Of the seven awards that were granted, three dealt with research on media in the Third World. The remaining awards were in the fields of geology, nutrition, economics and entomology.

/ECONOMIC AND SOCIAL DEVELOPMENT/ - /APPLIED RESEARCH/ /DEVELOPMENT RESEARCH/
$250000 12 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

83-1016 (CP)
INDUSTRIAL PRODUCTIVITY (JAMAICA)

Recognizing that small industries play an important role in economic development and the generation of employment, many governments have created institutions to provide them with technical support. In Canada, various provincial governments, have established research councils geared to the needs of small local industries, and this project seeks to make the experience of one of them available to Jamaica. The Research and Productivity Council of New Brunswick and the Scientific Research Council of Jamaica will work together to identify factors which limit productivity in certain key areas of Jamaican industry (agro-industry, chemical industry) and define a program to address these problems.

/PRODUCTIVITY/ - /SMALL-SCALE INDUSTRY/ /AGROINDUSTRY/
$108500 24 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA
-RESEARCH AND PRODUCTIVITY COUNCIL, FREDERICTON, NEW BRUNSWICK, CA
-SCIENTIFIC RESEARCH COUNCIL, KINGSTON, JM

83-1017 (CP)
SEAPOL

The Third UN Conference on the Law of the Sea concluded its negotiations on 30 April 1982. The Convention was adopted by an overwhelming majority of the delegates, including all those from Southeast Asia, and represents the emerging "constitution" for the use and management of the world's oceans. The problems of interpreting and implementing the convention, however, are of an uprecedented magnitude. This project will examine those parts of the Convention that are of major importance to Southeast Asia and will provide a general appraisal/overview of the legal, political, diplomatic and administrative measures required for their implementation. Particular attention will be paid to those provisions of the Convention that deal with the control of ship-generated pollution.

/law of the sea/ /maritime questions/ /legal aspects/ /political aspects/ /administrative aspects/ /pollution control/
$360000 30 months
-International Development Research Centre (IDRC), Ottawa, CA
-Chulalongkorn University. Institute of Asian Studies, Bangkok, TH
-Dalhousie Ocean Studies Programme (DOSP), Halifax, Nova Scotia, CA

83-1018 (CP)
Aggregate Tailings Slime (Singapore)

The "Old Alluvium" topsoil is the major source of sand aggregate for the rapidly expanding construction industry in Singapore. The topsoil is quarried in concessions situated in the northern areas of the island. The sand aggregate is recovered by a wash separation procedure, whereby the topsoil is mixed with water, and slurry is pumped into settling tanks. The aggregate tailings slime, consisting of the fines held in suspension form, is eventually disposed of in slime ponds. Presently, the industry is under no obligation to rehabilitate their concessions once the quarrying is completed. The objectives of this project are to develop treatment procedures to quickly settle the tailings slime material and to reclaim devastated land; and utilize the study and treatment process as a base for technology transfer - in Singapore and for the neighbouring countries.

/industrial wastes/ /waste waters/ /quarrying/ /waste treatment/ /waste recycling/ /waste disposal/ /land use/
$342374 36 months
-McClelland Engineers, Singapore, SG
-McGill University. Geotechnical Research Centre, Montréal, Québec, CA
-International Development Research Centre (IDRC), Ottawa, CA

83-1019 (CP)
Metallurgy of Arc Welds

Steel manufacturers in Colombia have encountered problems in the welding of their steel products. So far little research has been carried out on the welding metallurgy of steels produced in Colombia. The Universidad del Valle, Cali, Colombia, and the University of Waterloo, Canada, have therefore decided to cooperate in a study of welds made with Colombian stainless steels using a variety of electrodes. The project will not only provide information about the susceptibility of Colombian steels to welding problems, but will also strengthen Colombian research capability in this area.

/welding/ /metallurgy/ /alloys/ /metals/
$218590 36 months
-International Development Research Centre (IDRC), Ottawa, CA
-University of Waterloo. Department of Mechanical Engineering, Waterloo, Ontario, CA
-Universidad del Valle, Cali, CO

83-1020 (CP)
Snow and Ice in the Upper Indus Basin (Pakistan)

The Indus River accounts for most of the water supply for hydroelectric power production and for surface water irrigation in Pakistan. The Water and Power Development Authority (WAPDA) of Pakistan, the main governmental agency in charge of water resources in the country, although very active in other fields of hydrology, does not at present have a research or operational capability in snow and ice hydrology. Such capability would enable it to forecast temporal and spatial variations in the Indus. Objectives of this project are to create a group of trained, experienced personnel in WAPDA, forming the nucleus of their proposed Snow and Ice Division; produce an Operations Manual for snow and ice investigations in the Upper Indus Basin; draft a long-range research and operational plan for snow and ice in WAPDA; and, build a model for the hydrologic balance of at least one of snow and ice basins studies. Canadian scientists will collaborate on this project.

/snow/ /ice/ /hydrology/ /water supply/ /rivers/
$411000 36 months
-International Development Research Centre (IDRC), Ottawa, CA
-Water and Power Development Authority, Lahore, PK
-Wilfrid Laurier University, Waterloo, Ontario, CA

83-1021 (CP)
Cyprus Crustal Study - Phase II

Phase I of this project combined scientific investigation into ocean crust formation in Cyprus with a training program for professional geologists and drilling engineers from developing countries. Phase II will provide funds for a new training program that will allow some 20 geoscientists from developing countries to receive classroom training in Cyprus in such subjects as marine geology, plate tectonics, and ore formation. The trainees will then undertake individual on-site studies of the Troodos Ophiolite and its massive copper sulfide ore deposits and, later, complementing laboratory and analytical work in a Canadian institution. The entire program will last two years, approximately one year in Cyprus and one in Canada.

/hydrogeology/ /training programmes/ /geological surveys/ /drilling/
$373066 24 months
-Dalhousie University. Centre for Marine Geology, Halifax, Nova Scotia, CA

83-1022 (AFNS CP)
CASAFA SECRETARIAT II

The International Council of Scientific Unions (ICSU) created an International Commission on the Application of Science to Agriculture, Forestry and Aquaculture (CASAFA), in early 1979. CASAFA promotes cooperation between scientists in developed and developing countries in order to ensure the application of basic scientific research to solving agricultural problems and to increasing food production. Phase II of this project will enable IDRC to continue financing a small scientific secretariat for CASAFA.

/SCIENTIFIC COOPERATION/ - /ORGANIZATION OF RESEARCH/ /AGRICULTURE/
$40000 12 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), OTTAWA, CA

83-1023 (COMM SS CP)
Publications Support, University of Toronto Press

The University of Toronto Press, in cooperation with the Department of Political Science of the University of Toronto, has decided to issue a new series of publications with the theme "Political Economy of World Poverty". This project will provide financial support for the series to ensure a widespread distribution to selected Third World policymakers and research institutions. The series will encompass a variety of topics, for example, basic needs approach to development, land and labour issues related to development, and comparative development strategies. The series will provide developing country researchers with access to a distinctive Canadian point of view on the problems of world poverty.

/poverty/ /economic and social development/
$50000 36 months
-University of Toronto Press, Toronto, Ontario, CA

83-1025 (HS CP)
Cytomegalovirus Infection (China / McMaster University)

Cytomegalovirus (CMV) is no longer regarded only as the cause of a rare congenital disease syndrome, but is now recognized as an important infectious agent for adults as well as children. It is estimated that intrauterine infection with CMV occurs in between 0.5 and 2.0 percent of all live births. About one-quarter of infected newborns will have clinically recognizable disease. A great deal of research activity is now being undertaken towards the development of a vaccine to prevent the occurrence of CMV. Prior to vaccine introduction, however, accurate estimates of the prevalence of CMV in newborns and children are needed. In this project researchers in China and in Canada will undertake jointly a prevalence survey of CMV among children in Chengdu City in Sichuan Province. Researchers will make recommendations to Chinese health authorities regarding steps which might be taken to control CMV-related illness.

/infectious diseases/ /viruses/ /epidemiology/ /disease control/
$103070 24 months
-Sichuan Medical College. Department of Pediatrics, Chengdu, CN
-McMaster University Medical Centre, Department of Clinical Epidemiology and Biostatistics, Hamilton, CA

83-1026 (CP)
MEEE (Marine Ecosystem Enclosed Experiment) - Phase II

Canada has been conducting Controlled Ecosystem Pollution Experiments at the Institute of Ocean Sciences in Sydney, British Columbia. In phase I of this project, Canada and China undertook a joint program to strengthen marine pollution research in China and to enhance mutual cooperation between the two countries. As a first step towards the elaboration of a full research project, a series of visits on both sides took place with a view to allowing the two groups to get acquainted with each other's research environment, and to allow the Chinese in particular to learn about controlled ecosystem experiments at the Canadian laboratory facilities on the West Coast. In phase II, scientists will seek to understand the pathways and fate of toxic chemicals in the marine environment by conducting Marine Ecosystem Enclosed Experiments (MEEE). The MEEE technique will be applied to studies in the tropical waters off the coast of S-E China.

/marine pollution/ /scientific cooperation/ /marine environment/ /toxic substances/
$651000 36 months
-Institute of Ocean Sciences, Sydney, CA
-University of British Columbia (UBC), Vancouver, CA
-China. National Bureau of Oceanography (NBO), Beijing, CN
-International Development Research Centre (IDRC), Ottawa, Ontario, CA

83-1027 (CP)
Aquatic Pollution in the Caroni River (Trinidad) - Phase II

Increasing industrial development in Trinidad and Tobago during the last decade has had a significant impact on the environment. The Caroni River in Trinidad is one of the most heavily polluted by industry. In phase I of this project, water samples from the Caroni River and its tributaries were analyzed for pollutants. Many of the contaminants found in the samples are known industrial pollutants and several have been found in industrial wastewaters. Activities begun in phase I dealing with trace organic pollutants will be continued and expanded in phase II. Researchers will develop a system for on-site extraction of water; extend research on aquatic pollution to coastal and estuarine water systems; and develop a methodology for identifying trace organics in sediment and fish tissue.

/water pollution/ /water quality/ /water pollutants/ /sample/
$114300 24 months
-International Development Research Centre (IDRC), Ottawa, CA
-University of Waterloo. Department of Chemistry, Waterloo, Ontario, CA
-Caribbean Industrial Research Institute (CARIRI), St. Augustine, TT

83-1028 (SS CP)
Agricultural Marketing (Lesotho)

The agricultural sector in Lesotho is characterized by low productivity, limited cash crop production and poor farm management practices. As a result, the country imports nearly 50 percent of its domestic food requirement. Agricultural marketing has been singled out as one of the priority areas for improvement but more information in the existing trade in commodities is required before specific recommendations can be made. This project will enable the National University of Lesotho and the University of Saskatchewan to study selected problems in agricultural marketing with a view to assisting policymakers to improve marketing strategies and infrastructure and advance agricultural development.

/marketing/ /agricultural products/ /agricultural prices/ /market studies/
$397800 24 months
-National University of Lesotho. Institute of Southern African Studies (ISAS), Maseru, LS
-University of Saskatchewan, Saskatoon, Saskatchewan, CA

83-1029 (HS CP)
Corneal Eye Infections (Nepal)

Corneal ulcerations, resulting from fungal infections of the eye, are a major cause of blindness in Nepal, but only preliminary attempts have been made to document the types of pathogens found in corneal ulcers, and the range of antibiotics effective against them. As well, little is known about the epidemiological factors leading to eye infection. The objective of this project is to provide detailed information on the epidemiology and microbiology of infected corneal ulcers in Nepal in order to devise a strategy for their prevention. Researchers will determine the prevalence and characteristics of corneal ulcers in the study population, identifying the causative bacteria and fungi and evaluating their susceptibility to various antimicrobial agents.

/eye diseases/ /fungus diseases/ /epidemiology/ /microbiology/
$143140 24 months
-University of Calgary, Calgary, Alberta, CA
-Tribhuvan University. Institute of Medicine, Kathmandu, NP

83-1030 (SS CP)
Cooperative Enterprises and Rural Development (India)

The policy of the government of India has been to encourage cooperatives as instruments of rural development. While there have been some notable successes, there have also been many failures in spite of the commitment of government resources and policies to expand and support cooperatives. Scholars on this project will undertake a program of research and comparative analysis to determine the reasons for success or failure of different types of cooperatives in different locations within the country. The research program, in which Indian and Canadian scholars will collaborate, is to be organized as a series of case studies.

/cooperatives/ /evaluation/ /rural development/ /case studies/ /comparative analysis/
$320300 36 months
-McGill University. Department of Anthropology, Montréal, Québec, CA
-University of Delhi. Department of Sociology, Delhi, IN

83-1031 (AFNS CP)
Genotyping (Manitoba / CIAT)

CIAT (Centro Internacional de Agricultura Tropical), based in Cali, Colombia, is responsible for conserving, evaluating and documenting the world germ plasm collections of cassava, beans, and a wide range of tropical grass and legume species. Through the application of recent advances in chemo-taxonomy, this project will allow CIAT staff to describe their existing collections better, avoid duplication of entries and identify objectives for future collection. Specifically, researchers will select the electrophoretic technologies most useful for characterizing germ plasm; determine, for each genus under investigation, the most suitable genetic markers; and convert analogue electrophoretic data into digital form for computer storage and analysis. (Electrophoresis refers to the movement of suspended particles through a fluid under the action of an applied electromotive force.)

/genetic improvement/ /plants/ /terminology/ /plant breeding/ /classification/
$337500 36 months
-University of Manitoba. Department of Plant Science, Winnipeg, CA
-Centro Internacional de Agricultura Tropical (CIAT), Cali, CO

83-1032 (AFNS CP)
Tissue Culture (Calgary / Costa Rica)

A tissue culture program for research on clonal multiplication of "Pejibaye", peach palm, was begun in 1977 at the University of Costa Rica. The fruit of Pejibaye has twice as much protein as plantain, and is richer in proteins and carbohydrates than maize. Tiquisque, or white dasheen, and the Malanga root, or coco yam, are of great economic and nutritional importance in the tropical zones of America and have been shown to be agronomically suitable as early relay crops in the establishment of stands of Pejibaye. This project will develop practical and economical tissue culture methods for clonal multiplication of peach palm, white dasheen and coca yam. Researchers will improve methodologies for vegetative propagation of Pejibaye; evaluate the genetic stability of in vitro-derived Pejibaye, and the culturability of different germ plasm lines; evaluate the impact of viral infection on white dasheen and coca yam material.

/PALMS/ - /GENETIC IMPROVEMENT/ /FRUIT TREES/ /ROOT CROPS/ /PLANT DISEASES/ /VIRUSES/
$202500 36 months
-University of Calgary. Department of Biology, Calgary, Alberta, CA
-Universidad de Costa Rica. Centro de Investigacionas Agronomicas, San José, CR

83-1033 (SS CP)
FARMERS' PARTICIPATION IN RURAL DEVELOPMENT (SIERRA LEONE)

Development agencies have placed their hopes on the cultivation of swamps to increase rice production in Sierra Leone. In most cases, however, the results have been discouraging. The adoption rate for swampland cultivation has generally been quite high, but most farmers have quickly abandoned the technique and returned to their traditional upland farming practices. This project seeks to gain a greater understanding of how farmers perceive agricultural problems and what knowledge they apply to solve them. Specifically, researchers will examine farmers' traditional uses of swamplands and will determine whether these are compatible with potentially more effective techniques of rice cultivation. Researchers will study the functioning of traditional labour cooperatives to see whether these could provide needed labour, extension and credit. Research results will be incorporated into readers which will be used in literacy instruction.

/RURAL DEVELOPMENT/ - /AGRICULTURAL EXTENSION/ /FARMERS/ /ON-FARM RESEARCH/ /CULTIVATION PRACTICES/ /SWAMPS/ /ADULT EDUCATION/
$64020   24 months
-CANADIAN UNIVERSITY SERVICE OVERSEAS (CUSO), FREETOWN, SL
-UNIVERSITY OF SIERRA LEONE, FREETOWN, SL

84-0001 (HS)
Rubella (Indonesia)

A fetus that contracts rubella (German measles) may be born with defects. In Western countries, rubella is extremely rare because children are vaccinated against the disease. However, in most developing countries, immunization of children against rubella is not standard practice. The purpose of this project is to determine whether the disease represents a significant enough health hazard to newborns in Indonesia to warrant a national immunization program. Researchers will determine the prevalence of rubella antibodies among women in the first trimester of pregnancy who are attending clinics in a large teaching hospital in Jakarta and among a sample of adolescent women.

/measles/ /epidemiology/ /infants/ /maternal and child health/
$53910   17 months
-University of Indonesia, Jakarta, ID

84-0002 (HS)
PERINATAL MORTALITY (MEXICO)

In most industrialized countries, infant illness and death during the perinatal period (first week after birth) have decreased considerably over the past several decades. Unfortunately, in many developing countries, perinatal illness and death remain unacceptably high. Investigators in Mexico City will attempt in this project to identify elements in perinatal health care delivery that could reduce the mortality risk.

/INFANT MORTALITY/ - /MATERNAL AND CHILD HEALTH/ /HEALTH SERVICES/
$99500   12 months
-Mexico. Secretaria de Salubridad y Asistencia, Mexico, MX

84-0003 (HS)
HIGH RISK PREGNANCY (INDONESIA)

In most developing countries, both maternal and perinatal illness and death rates remain unacceptably high. Maternity care is particularly inadequate in rural and urban marginal areas and there is a serious lack of reliable data for planning the delivery of obstetrical and perinatal services. In this project, researchers at Yayasan Atma Jaya, an Indonesian non governmental organization active in the health field, will develop and evaluate a simple system for the early detection of high-risk pregnancies. Researchers will design a simple health risk card and accompanying health education package for pregnant women in a slum area of northwest Jakarta. The material will be distributed by traditional birth attendants and local health workers.

/PREGNANCY/ - /MATERNAL AND CHILD HEALTH/ /PRIMARY HEALTH CARE/ /HEALTH EDUCATION/ /AUXILIARY HEALTH WORKERS/ /MIDWIVES/
$66510 19 months
-YAYASAN ATMA JAYA, JAKARTA, ID

84-0004 (HS)
Perinatal Mortality (Brazil)

In most industrialized countries, illness and death rates among infants in the perinatal period (first week after birth) are extremely low. Unfortunately, this is not the case in many developing countries where perinatal illness and death, often associated with low birth weight, are common occurrences. The prevention of low birth weight and of perinatal deaths through appropriate screening, management and referral of pregnant mothers is the rationale for the high risk approach to maternity. This project will identify risk factors predictive of low birth weight and perinatal death among underprivileged urban families living in the city of Natal in northeastern Brazil. Researchers will develop a simple risk scoring system to be used by health workers during prenatal visits to screen mothers in need of referral or primary care.

/infant mortality/ /pregnancy/ /maternal and child health/ /health services/
$156080 20 months
-Fundaçao Norte-Riograndense de Pesquisa e Cultura (FUNPEC), Natal, BR

84-0005 (SS)
URBAN HEALTH SERVICES (KHARTOUM)

Sudan's Triple Capital (Khartoum, Khartoum North and Omdurman) has experienced exceptionally rapid urban growth over the past few decades, but this has not been matched by improvements in the delivery of urban services. Moreover, environmentally related health problems seriously affect the well-being and daily life of the inhabitants. There is a need to improve urban management procedures, without recourse to large capital infrastructure. Researchers on this project will analyze health services in Greater Khartoum in relation to its rapid growth with a view to recommending positive changes for the low-income groups. Researchers will describe and analyze problems of environmental sanitation affecting low-income groups; identify the problems of urban health service delivery; and examine the present administrative structure and make recommendations for its improvement.

/HEALTH SERVICES/ - /URBANIZATION/ /POPULATION INCREASE/ /SANITATION SERVICES/ /LOW INCOME/ /PUBLIC ADMINISTRATION/ /INSTITUTIONAL FRAMEWORK/
$60600 18 months
-UNIVERSITY OF KHARTOUM, KHARTOUM, SD

84-0006 (SS)
URBAN GROWTH MANAGEMENT (IVORY COAST)

Urban growth is one important aspect of Third World development. In Africa, cities have grown faster than anywhere else in the world over the last twenty years. Until now, few Africans have been qualified to do research on the institutional, administrative and financial aspects of urban growth. This project in conjunction with project Ecoville at the University of Toronto will study urban growth management in the Ivory Coast. The researchers will study the impact of heavy migration from rural areas to the city and the concomitant problems in employment, housing, urban services infrastructures and food distribution. Research on the institutional, administrative and financial structures of communities will be conducted in the capital city Abidjan and in 10 other municipalities.

/URBAN DEVELOPMENT/
$45900 18 months
-NATIONAL UNIVERSITY OF IVORY COAST, ABIDJAN, CI

84-0007 (SS)
SADRA SUPPORT (SOUTHERN AFRICA)

The Southern African Development Research Association (SADRA) was established by social scientists and social science research institutions in Southern Africa. It was founded on the strong belief that the research skills of social scientists in Southern Africa can make an important contribution to the policy choices that face the member states of the Southern Africa Development Coordination Conference (SADCC). This project provides funds for SADRA to establish its headquarters at the Institute for Southern African Studies at the National University of Lesotho and hold executive committee meetings.

/SOCIAL RESEARCH/ - /ORGANIZATION OF RESEARCH/
$30000 24 months
-SOUTHERN AFRICAN DEVELOPMENT RESEARCH ASSOCIATION (SADRA), DAR ES SALAAM, TZ

84-0008 (SS)
OSSREA SUPPORT (EAST AFRICA) - PHASE II

The Organization for Social Science Research in Eastern Africa (OSSREA) has been developed by prominent social scientists from Kenya, Uganda, Ethiopia and Tanzania. In providing its first grant to OSSREA in 1982, IDRC recognized the serious lack of local support for social sciences research in East Africa. This grant provides a second round of support for OSSREA to continue promoting and organizing social science research in Eastern Africa. Specifically, the grant will provide a research fund, cover a portion of the secretariat's administrative costs, and finance a research-related workshop and publication activities.

/SOCIAL RESEARCH/ - /ORGANIZATION OF RESEARCH/
$85300 24 months
-ORGANIZATION FOR SOCIAL SCIENCE RESEARCH IN EAST AFRICA (OSSREA), ADDIS ABABA, ET

84-0009 (SS)
URBAN GROWTH MANAGEMENT (ZAIRE)

In Zaire as in other developing countries the lack of adequate urban services can be attributed to limited financial resources and poor management of these services. The rapid population increase in the years since independence has led to a decrease in the availability or public services such as water, electricity, access to transportation, garbage collection, and schooling. This project will analyze the management of basic urban services in the capital of Kinshasa with particular attention to the real estate and urban food markets and will make recommendations for an improved urban management policy. This project on urban growth management forms part of the Ecoville project coordinated by the University of Toronto.

/URBAN DEVELOPMENT/ - /PUBLIC SERVICES/
$33100 18 months
-DÉPARTEMENT DES TRAVAUX PUBLICS ET DE L'AMÉNAGEMENT DU TERRITOIRE, KINSHASA, ZR

84-0010 (SS)
NATURAL HAZARDS AND URBAN SERVICES (BOLIVIA)

Over the past two years, several areas of Bolivia have been afflicted with natural disasters. For example, a persistent drought is centering on Potosi and widespread floods have occurred on several occasions in Santa Cruz. The objective of this project is to analyze the impact of these natural disasters on the urban services and standards of living in the two cities. Researchers will describe the causes and consequences of the vulnerability of these cities to natural disasters; analyze the deterioration in standards of living, especially among the low-income population; describe relief measures developed by governmental, international, and popular organizations; describe the survival strategies of the population, especially the urban poor; and propose an emergency plan to be implemented when such disasters recur and long-term strategies to make the cities less vulnerable to such hazards.

/NATURAL DISASTERS/ - /DROUGHT/ /FLOODS/ /PUBLIC SERVICES/ /URBAN AREAS/ /STANDARD OF LIVING/ /EMERGENCY RELIEF/ /LOW INCOME/
$46200 9 months
-CENTRO DE INVESTIGACION Y CONSULTORIA (CINCO), LA PAZ, BO

84-0011 (SS)
URBAN FACILITIES IN DAKAR (SENEGAL)

Third World cities are characterized by an unequal distribution of urban services from one neighborhood to the next. In Dakar, Senegal, for example, many sections of the city are without essential services, while others have an abundance. Overcrowding has given rise to problems of space utilization, hygiene, traffic, as well as the distribution of sewerage, water, and electricity infrastructures. This project, which is also part of the University of Toronto Ecoville project, intends to study the disparity in the distribution and management of urban services and the current patterns of land use in order to propose a more equitable policy to the authorities involved in urban planning.

/URBAN DEVELOPMENT/ - /PUBLIC SERVICES/
$48600 18 months
-MINISTÈRE DE L'URBANISME, DE L'HABITAT ET DE L'ENVIRONNEMENT, DAKAR, SN

84-0012 (FAD)
POSTGRADUATE TRAINING COURSE IN PRECAMBRIAN GEOLOGY

The full extent of the mineral wealth of many sub-regions of Africa has yet to be determined. To gain control of the development of their mineral resources, the nations of Africa must have their own geoscientists. The purpose of this project is to allow the Geology Department of the University of Addis Ababa and the Ottawa-Carleton Centre for Geoscience Studies of Carleton University to collaborate in the preparation and presentation of a training course on Precambrian geology for East African geologists. Trainees will develop an awareness of the mineral resources associated with Precambrian metamorphic and igneous rocks; develop the skills needed to map and interpret these rocks; and learn to recognize geologic environments and circumstances favouring the discovery of metallic mineral deposits.

/GEOLOGY/ - /TRAINING COURSES/ /MINERAL RESOURCES/ /GEOLOGICAL SURVEYS/
$96450 6 months
-ADDIS ABABA UNIVERSITY, ADDIS ABABA, ET

84-0013 (HS)
SOLAR DISINFECTION (THAILAND)

Many rural populations in developing countries do not have access to safe water supplies. Simple and inexpensive methods of water disinfection are required. Research has shown that ultra-violet (UV) radiation from UV lamps can significantly reduce harmful microorganisms found in drinking water. The purpose of this project is to study the efficacy of solar irradiation as a low-cost means of disinfecting drinking water in northern Thailand. Researchers will survey three representative areas to determine the relationship between socioeconomic status and the quality of the water being consumed; design and construct laboratory-scale models to study the effect of solar irradiation on the bacteriological characteristics of water; and determine basic design criteria and costs of the most effective disinfection unit.

/WATER TREATMENT/ - /SOLAR RADIATION/ /DRINKING WATER/ /WATER QUALITY/
/ENGINEERING DESIGN/
$65885 18 months
-CHIANG MAI UNIVERSITY, CHIANG MAI, TH

84-0014 (SS)
HOUSING POLICY AND THE URBAN POOR (BRAZIL)

Over the past few decades, Brazil has been characterized by high rates of industrialization and urbanization. Over two-thirds of the population now lives in urban areas, where housing problems are widespread. Recently, there has been increasing evidence that government policies toward slums and squatters are evolving away from the removal of favelas (shanty towns). The favoured policy now appears to be slum upgrading, which involves improvements in the physical infrastructure and the regularization of property rights. The purpose of this project is to describe and explain the recent changes in government housing policies toward the low-income population in the Rio de Janeiro area and to carry out a case study of a large area of slum upgrading, the Projecto Rio, which was initiated in 1979 by the government. Project results will be of benefit to agencies involved in improving or providing housing and urban services to the poor.

/HOUSING POLICY/ - /LOW INCOME/ /URBAN RENEWAL/ /SLUMS/ /HUMAN SETTLEMENTS/
$65000 18 months
-INSTITUTO UNIVERSITARIO DE PESQUISAS DO RIO DE JANEIRO (IUPERJ), RIO DE JANEIRO, BR

84-0015 (AFNS)
Upland Rice Storage (Sierra Leone) -- Phase II

Rice is the most important food crop in Sierra Leone. Improvements in the post-harvest management of rice to minimize losses are considered of great importance. Results of phase I of this project indicate the potential benefits of improved storage systems in reducing levels of insect and rat infestation and contamination. However, since phase I results indicate that less than one percent of stored rice is lost due to insects and moulds, phase II will attempt to determine exactly where rice harvest and post-harvest losses occur, in what quantities, and develop improved handling methods to reduce them. Improved storage systems developed in phase I will be tested at farm level and extension staff will be trained in methods of improved rice handling.

/rice/ /storage/ /harvesting/ /post-harvest systems/
$110100 36 months
-Sierra Leone. Ministry of Agriculture and Forestry, Freetown, SL

84-0016 (AFNS)
Dehuller Development (Senegal)

IDRC has been supporting research and development work on grain dehulling and milling systems in various parts of Africa since 1972. The result has been several prototype models of a dehulling machine that shows promise of being applicable and acceptable in rural villages. However, the basic dehuller model is too large for many villages. A small machine, originally designed for laboratory use, appears to be more suitable. The purpose of this project is to adapt the design of this dehuller to West African needs, test it, and set up a manufacturing line for its production. Researchers will field test dehullers in rural areas of Senegal to assess their technical, social and economic suitability and acceptability.

/grain processing/ /agricultural machinery/ /engineering design/ /testing/
$303200 36 months
-Société industrielle sahélienne de mécaniques de matériel agricole et de représentations (SISMAR), Dakar, SN
-Centre national de recherches agronomiques (CNRA), Bambey, SN

84-0017 (SS)
NATIONAL COMMUNICATIONS POLICY (BRAZIL)

A number of studies done over the past 10 years on the development of mass media in Brazil have shown that communications media could play an essential role in the socio-political and cultural integration of the country. The introduction of new communications technologies, however, has not led to a greater diversity of media content. Neither has there been greater participation in mass media programming by the various groups that make up Brazilian society. The purpose of this project is to contribute to the ongoing discussions about the structure and role of the media programming by providing qualitative information regarding the historical development, organization, and impact of the communications media in Brazil over the last 15 years. Specifically, the research will examine the organization, operation, programming patterns of radio and television and their effect on the economic development of the country, on the process of cultural integration and on the return to democratic government.

/MASS MEDIA/ - /MASS COMMUNICATION/ /COMMUNICATION POLICY/
$16300 18 months
-CENTRO BRASILEIRO DE ESTUDOS LATINO-AMERICANOS, RIO DE JANEIRO, BR

84-0018 (SS)
LIVING CONDITIONS OF SAO PAULO'S WORKING CLASS (BRAZIL)

In recent years, the economic situation has deteriorated considerably in Brazil, in large part as a result of the energy crisis since the country must import virtually all of its petroleum. There is some evidence to suggest that the living conditions of significant segments of the population have worsened as a result of the economic crisis coupled with high inflation. But there are few in-depth studies, based on rigorous analysis of representative data, whose conclusions can be trusted. Researchers in this project will carry out a detailed statistical analysis on data collected since 1969 on the living conditions of the Sao Paulo working class. Researchers will contrast the results of a 1981-82 survey with a survey carried out in 1969-70, and assess the changes in living conditions which have occurred. The researchers will attempt to compare the composition of household budgets, the percentage of household income that rent, food and other expenditures represent.

/LIVING CONDITIONS/ - /WORKING CLASS/ /FAMILY BUDGET/ /INCOME/
$80000 12 months
-CENTRO DE ESTUDOS DE CULTURA CONTEMPORANEA (CEDEC), SAO PAULO, BR

84-0019 (SS)
FOOD CONSUMPTION AND THE URBAN POOR (BOLIVIA)

In Bolivia where most of the population lives at or close to subsistence levels, the current economic crisis is first reflected in the quality and amount of food consumed, particularly in urban areas. This project will study food consumption among the low-income population of La Paz. Researchers will determine household food expenditures; identify and describe the food distribution channels used; describe the changes in food expenditure as a result of scarce supply and high prices; and analyze the mechanisms used by the urban poor to cope with their problems. These mechanisms include: neighbourhood associations, associations of mothers; consumer committees set up to stop or slow down food price speculation by intermediaries; labour unions, and other community organizations. Recommendations to improve the supply and distribution of low-priced food to the urban poor will be made.

/FOOD CONSUMPTION/ - /LOW INCOME/ /FOOD SUPPLY/ /CONSUMER EXPENDITURES/ /CONSUMER PRICES/ /COMMUNITY RELATIONS/ /VOLUNTARY ORGANIZATIONS/ /FOOD AID/
$57000 12 months
-CENTRO DE ESTUDIOS DE LA REALIDAD ECONOMICA Y SOCIAL (CERES), LA PAZ, BO

84-0020 (AFNS)
Rice Post-Harvest Technology (Thailand)

In Thailand, as in other major rice-producing countries of Southeast Asia, post-harvest losses can be as high as 25 percent. IDRC has supported research in the country on various aspects of rice post-harvest processing technology and its utilization. Little of this technology has found its way, as yet, into use in rural areas. The purpose of this project is to field test research results from previous projects more thoroughly than has been done before. Researchers will assess and promote improved technologies for paddy drying, rice milling and storage under a variety of local conditions. Performance tests under actual operating conditions will conducted for mechanical dryers, milling units, and storage structures.

/post-harvest systems/ /rice/ /drying/ /grain processing/ /engineering design/ /food storage/
$370600 36 months
-Thailand. Ministry of Agriculture and Cooperatives, Bangkok, TH

84-0021 (AFNS)
Cropping Systems (Jamaica)

In Jamaica, 90% of food crop production is by small farmers. However, small land holders lack the technical information, credit, inputs, and marketing facilities to meet demand. This project will initiate and implement a structured farming systems research program in two ecological zones of the St. Catherine Land Authority. Researchers will identify improved production methods acceptable to farmers and train project staff and associated personnel in on-farm research techniques.

/farming systems/ /agricultural production/ /on-farm research/
$375700 36 months
-Inter-American Institute for Cooperation on Agriculture (IICA), Kingston, JM

84-0022 (HS)
Rainwater Catchment (Malaysia)

In developing countries, only about 1 in 4 persons living in rural areas has access to safe water. The development of rainwater catchment systems holds much promise for these areas. The purpose of this project is to examine current knowledge, attitudes and practices in regard to rainwater catchment systems in Malaysia with the aim of improving and popularizing such systems. Researchers will design three suitable rainwater catchment systems for use in rural areas; undertake a comparative cost analysis of various rural water supply systems now in use; and assess the economic viability of rainwater catchment systems as an alternative source of water.

/water supply/ /rain/ /drinking water/ /water storage/ /engineering design/ /rural areas/
$27500 18 months
-National University of Malaysia. Department of Agricultural and Resource Economics, Selangor, MY

84-0023 (SS)
PUBLIC FINANCE (MIDDLE EAST)

Within the Arab countries of the Middle East, domestic taxation systems are not well developed, especially in the case of direct taxation on personal and corporate income. This situation has led to large public sector deficits. Furthermore, many Arab countries devote a large share of the public budget to perceived security needs, including the maintenance of large domestic armies and the importation of foreign weapons. This project will bring together a number of researchers under the auspices of an Italian-based institution, the Istituto Affari Internazionale. The project will support four comparative studies of sources of government revenue and patterns of government expenditure within Middle East countries; and support the preparation of research papers on six public finance issues in these countries.

/PUBLIC FINANCE/ - /TAX REVENUES/ /PUBLIC EXPENDITURES/
$63600 12 months
-ISTITUTO AFFARI INTERNAZIONALI, ROME, IT

84-0024 (AFNS)
Meat Processing (Pakistan)

A wide range of traditional dried meat products is produced in Pakistan. However, no effort has yet been made to standardize production, processing, and storage to ensure hygiene. The purpose of this project is to formulate and test various dried and semi-dried meat products. These will be prepared using mechanical and solar dryers developed at the Pakistan Council of Scientific and Industrial Research. Researchers will compare the microbiological quality and nutritive values of traditional dried beef products with those of modified and newly developed products; evaluate suitable packaging materials for dried beef products; and assess the technical and economic feasibility of establishing rural or urban meat-drying industries.

/meat processing/ /dried food/ /meat products/ /drying/ /testing/
$181600 48 months
-Pakistan Council of Scientific and Industrial Research (PCSIR), Lahore, PK

84-0025 (SS)
SERVICES FOR URBAN FACTORY WORKERS (KOREA)

South Korea's record of economic growth over the past three decades has been impressive. However, it is alleged that the single-minded pursuit of economic growth by the government has led to the relative neglect of the welfare and well-being of urban factory workers most of whom have come from rural areas. This project will address the problem of inadequate services provided to factory workers in urban Korea. Specifically, researchers will identify the current status of urban services in urban industrial estates, with particular reference to the problems of factory workers; examine and assess existing policies and programs, if any, for industrial workers; identify the needs of factory workers and the community in which they live; and provide policy recommendations with a view to improving the lives and well-being of factory workers.

/INDUSTRIAL WORKERS/ - /INDUSTRIAL AREAS/ /PUBLIC SERVICES/ /LIVING CONDITIONS/ /INDUSTRIALIZATION/ /SOCIAL COSTS/
$67500 18 months
-HANYANG UNIVERSITY, SEOUL, KR

84-0026 (AFNS)
Rice Farming Systems (Bhutan/IRRI)

The Kingdom of Bhutan is a small landlocked country in the eastern Himalayas. The country's cereal yields are among the lowest in Asia. This low yield can be attributed partially to the limited use of fertilizers and limited irrigated land. A lack of appropriate technology and a shortage of appropriate training materials have aggravated the situation. The purpose of this project is to assist Bhutan in the development and introduction of appropriate technologies (e.g. agricultural equipment, rice germ plasm, etc.) to increase productivity in rice-growing areas and, consequently, the income and nutritional status of small farm households. The specific objectives are to develop the capability of the Department of Agriculture staff in rice-based farming systems research; assist the Department in the design, implementation and analysis of applied research to improve rice-based farming systems; and, accelerate the transfer of technology from other countries with similar environments and international research centres.

/agricultural research/ /farming systems/ /rice/ /agricultural engineering/ /appropriate technology/
$690200 60 months
-International Rice Research Institute (IRRI), Manila, PH

84-0027 (AFNS)
Alley Cropping (Nigeria) -- Phase II

Alley farming - growing crops between rows of frequently pruned leguminous trees - offers a promising alternative to the traditional bush fallow system for maintenance of soil fertility in the humid and sub-humid tropics. In phase I of this project researchers in Nigeria screened native browse species for use as dry season fodder in an alley cropping system and found Leucaena leucocephala and Gliricidia sepium to have the desired vigor and growth. Phase I developed the animal and crop management capability for a more complete evaluation of alley farming. In phase II researchers will determine the effects of short-term fallow on soil fertility and subsequent crop yields; determine the appropriate planting density for seed-established Gliricidia sepium trees; determine environmental and management adaptability in a collection of Gliricidia sepium; determine appropriate, profitable browse-feeding strategies in the context of cut-and-carry feeding; and coordinate the establishment and monitoring of 60 crop/livestock alley farms in Oyo State.

/intercropping/ /forage crops/ /legumes/ /fodder/ /cultivation practices/
$251500 24 months
-International Livestock Centre for Africa (ILCA), Adis Ababa, ET

84-0028 (AFNS)
By-Products Network (ILCA)

Substantial research has been undertaken by scientists in Africa on the use of by-products for animal feed. The purpose of this project is to develop a network in support of research on the utilization of crop residues and agroindustrial by-products for animal production. Scientists from Nigeria, Cameroon, Senegal, Sudan, Tanzania and Egypt, together with the International Livestock Centre for Africa, will form an African Research Network for Agricultural By-Products (ARNAB). The objectives of ARNAB will be to collect, analyze and disseminate literature on agricultural by-products utilization and processing methods; develop standard feed evaluation methods and terminology; and provide forums for the exchange of information among scientists.

/by-products/ /agricultural wastes/ /animal production/ /feed production/
/organization of research/
$486400 36 months
-International Livestock Centre for Africa (ILCA), Addis Ababa, ET

84-0029 (HS)
Alcoholism (Botswana)

Alcohol abuse is an important and growing social problem in Botswana. Since almost half of the country's population is under the age of 15, there is concern regarding the extent to which youths use alcohol and from what age. Researchers on this project will conduct a nationwide survey to obtain information on patterns of alcohol use and abuse and on beliefs and attitudes regarding alcohol. Researchers will determine the time and rate of adoption of alcohol-consumption practices among youths. They will also investigate the impact of alcoholism on productivity and safety at the work site and its related implications for economic development of the country.

/alcoholism/ /behaviour/ /youth/
$213930 24 months
-University of Botswana and Swaziland, Gaborone, BW

84-0030 (COMM)

INFORMATION EXCHANGE WITH CHILDREN (KENYA) - PHASE II

"Rainbow" is a children's magazine published in Kenya. Each year since 1979, the Mazingira Institute in Nairobi has collaborated with the editor of "Rainbow" on the production of a special information package on a specific environmental topic. IDRC supported the water and sanitation issue in 1983 and will provide funds for the June 1984 issue. This issue will provide school-age children in Kenya and Uganda with information on infant care and population. The 16-page package will use cartoons and text, as well as a contest in which children will be asked to send in their answers to questions on infant care practices in their home districts. The contest answers will be analyzed and become an important input into ongoing child-care and population programs.

/HEALTH EDUCATION/ - /CHILD CARE/ /RURAL AREAS/
$30138   12 months
-MAZINGIRA INSTITUTE, NAIROBI, KE

84-0031 (AFNS)

By-Products (Egypt) - Phase III

Cotton, corn, rice and sugarcane produce by-products with potential as animal feedstuffs. In the first two phases of this project, animal feed requirements in Egypt were surveyed and techniques for improving the nutritive value of by-products were researched. The objective of phase III is to develop improved animal production systems for two villages in the Egyptian Delta using low-cost feed rations of local by-products. Specifically, researchers will establish two village-based feed mill systems for producing rations of available by-products; survey resources available in the villages for producing by-product rations; and, develop a formulated ration for year-round animal feeding, and test it in the villages.

/by-products/ /feed/ /animal production/ /milling industry/
$299600   36 months
-University of Alexandria. Department of Animal Production, Alexandria, EG

84-0032 (HS)

SYPHILIS IN PREGNANCY (THAILAND)

Syphilis is caused by the bacterium Treponema pallidum. It is well recognized that syphilis can affect pregnancy in many ways, causing miscarriages, stillbirths, congenital deformities and neonatal death. Although syphilis in pregnancy is now well controlled in developed countries through routine screening tests, it is still a problem in much of the developing world. Researchers in this project will institute a comprehensive screening and treatment program at the antenatal clinic of Chulalongkorn University in Bangkok, Thailand. The incidence of syphilis in patients will be determined; primary sources will be traced; and the effects of syphilis in pregnancy and the results of treatment in newborns will be studied. Recommendations for the management of syphilis in pregnancy will be made to the health authorities.

/VENEREAL DISEASES/ - /PREGNANCY/ /DISEASE CONTROL/ /DIAGNOSIS/
$79417   24 months
-CHULALONGKORN UNIVERSITY, BANGKOK, TH

84-0033 (HS)
Epidemiology of Dengue (Malaysia)

Dengue Fever (DF) is an acute infectious disease which is transmitted by the mosquito. In its mild form, DF is characterized by a fever, rash, headache, and severe muscular pains. But a more serious condition, Dengue Hemorrhagic Fever (DHF) also exists, features of which include haemorrhages, shock, and often death. DF and the risk of epidemics of the more lethal DHF have rapidly become potentially major public health threats. Basic epidemiological and serological studies must be done in order to monitor the activity of dengue virus and to identify factors in the population at risk that are contributory to the development of DHF. Researchers in this project will study the transmission of dengue virus in a defined population by carrying out a sero-epidemiological study in Malaysian children and adults.

/infectious diseases/ /epidemiology/ /viruses/
$143675 36 months
-Universiti Malaya. Department of Microbiology, Kuala Lumpur, MY

84-0035 (FAD)
TRAINING COURSE: AGRO-INDUSTRY MANAGEMENT

Agro-industry generates a variety of economic activities, increases rural employment and expands agricultural production. However, agro-industrial enterprises in developing countries are mostly small-scale and often suffer from poor management. The purpose of this project is to allow the Development Academy of the Philippines to present a training course for managers of food-processing industries from countries in Asia and the Pacific Region. The objective of the course is to teach the managers: to apply modern and proven management techniques, tools, and frameworks to their operations; and to use in-plant process improvement research as a management tool. The course will be offered to 28 participants over a period of 28 days between November and December 1984.

/MANAGEMENT DEVELOPMENT/ - /TRAINING COURSES/ /FOOD PROCESSING/ /FOOD INDUSTRY/ /AGROINDUSTRY/
$46500 8 months
-DEVELOPMENT ACADEMY OF THE PHILIPPINES, METRO MANILA, PH

84-0036 (FAD)
TRAINING COURSE ON SPECIALIZED INFORMATION CENTRES FOR INFORMATION ANALYSIS AND CONSOLIDATION

Since 1973, the Asian Institute of Technology's (AIT) Library and Regional Documentation Centre has been developing its information analysis, repackaging and dissemination activities. These activities are carried out by Specialized Information Centres using modern technologies such as computers and microforms. The purpose of this project is to prepare and present a training course for the managers of those Specialized Information Centres in Asia that provide back-up support for research projects supported by IDRC. The course will provide the managers with the knowledge and techniques to establish, operate, and manage the information centres.

/TRAINING COURSES/ - /SPECIALIZED INFORMATION ANALYSIS CENTRES/
/MANAGEMENT DEVELOPMENT/
$64380 3 months
-ASIAN INSTITUTE OF TECHNOLOGY (AIT), BANGKOK, TH

84-0037 (FAD)
TRAINING COURSE: FOREST RESEARCH MANAGEMENT

Many of the management staff of forestry research and development institutions in Asia and the Pacific are natural scientists with little or no training in the management of research and development. The purpose of this project is to allow the National University of Singapore to prepare and present an urgently needed training course for the managers of forestry research and development establishments in the region. The course objectives are to enable the 30 participants to understand modern management principles and functions; to improve managerial knowledge, skills and methodology; and to foster managerial team work. The participants will be drawn from forestry research facilities in Bangladesh, Burma, China, Fiji, India, Indonesia, Malaysia, Nepal, Pakistan, Philippines, Papua New Guinea, Sri Lanka and Thailand.

/TRAINING COURSES/ - /FORESTRY RESEARCH/ /MANAGEMENT DEVELOPMENT/
$93000 7 months
-NATIONAL UNIVERSITY OF SINGAPORE, SINGAPORE, SG

84-0038 (AFNS)
Soil Research (IBSRAM)

The International Board for Soil Research and Management (IBSRAM) was established to undertake, coordinate and apply research on the management, conservation, and classification of soil and land resources for food production. The purpose of this grant is to provide IBSRAM with core funding to cover its initial operating costs.

/soil management/ /organization of research/ /soil conservation/ /soil surveys/
$100000 18 months
-Australian Centre for International Agricultural Research (ACIAR), Canberra, AU

84-0039 (AFNS)
Highland Oilcrops Improvement (Ethiopia) - Phase II

Oilseeds supply the fat in the diet of most Ethiopians and provide feedstock for several agroindustrial products. However, yields are low and result in a serious shortage of oilseeds. Researchers in phase I of this project sought to develop high yielding, stable cultivars of noug, linseed, brassicas (rapeseed and mustard) and sunflower. Researchers had access to a wide range of introduced germ plasm for improving varieties of the major oilcrops. Phase II will consolidate variety improvement work on noug, linseed, mustard, and sunflower to identify varieties giving higher yields of seed and oil and having lower pest and climatic losses. Researchers will strengthen the agronomic programs on these crops to develop improved management practices; and, produce and supply seed of improved oilcrops varieties, ensuring effective communication with extension workers and producers.

/oilseeds/ /genetic improvement/ /cultivation practices/ /agricultural extension/
$337500 36 months
-Institute of Agricultural Research, Addis Ababa, ET

84-0040 (AFNS)
Farming Systems (Ethiopia)

Both livestock productivity and crop yields are low in Ethiopia. There is an urgent need to design improved, more intensive systems of production. Researchers on this project will gather information on existing patterns of production; identify constraints to production; and collaborate with farmers to identify and test appropriate technologies. Researchers will identify how new crop varieties, and crop and animal management techniques can lead to increased productivity.

/farming systems/ /agricultural production/ /on-farm research/
$325400 36 months
-Institute of Agricultural Research, Addis Ababa, ET

84-0041 (SS)
Regional Socioeconomic Impacts of Export Processing Zones (Asia)

Since the 1960's, export processing zones (EPZs) have been established in many developing countries to promote rapid industrialization. Within EPZs investors are invited to engage in industrial activities intended entirely for export. The purpose of this collaborative and comparative project is to study the social and economic effects and likely unanticipated side-effects arising from the development of EPZs in South Korea, the Philippines and China. Researchers will assess the impact of EPZs on family and community structure, community facilities and services, incomes, living standards, expenditures and land use patterns. They will also recommend to policymakers specific measures for meeting local needs.

/export promotion/ /employment creation/ /development strategy/ /economic implications/ /social implications/
$231400 18 months
-Seoul National University. Department of Geography, Seoul, KR
-University of the Philippines, Quezon City, PH
-Centre for Hong Kong and Macao Economic Studies, Guangzhou, CN

84-0042 (HS)
School Sanitation (Lesotho)

It is estimated that over 75% of people in developing countries do not have sanitary facilities. In Lesotho, only 16-18% of primary schools have latrines of any description, and most of these are either unsafe or not in use for a variety of reasons. The purpose of this project is to develop, implement and evaluate a health education program delivered by primary school teachers. The program will be designed to improve knowledge and change attitudes and practices with respect to the construction, use and maintenance of sanitary facilities. As part of the project 150 ventilated improved pit (VIP) latrines will be constructed in accordance with local needs, expectations and conditions.

/sanitation/ /primary schools/ /health education/
$217000 36 months
-Central Planning and Development Office, Maseru, LS

84-0043 (IS)
Mangroves and Remote Sensing (Indonesia)

Mangrove resources in Indonesia and the rest of Southeast Asia have been depleted as a result of exploitation and competition from human settlement. Improved monitoring systems are therefore critical to the management of this important renewable resource. The objectives of this project are to inventory mangrove areas in Indonesia using remote sensing techniques, and to strengthen local capability in these skills. Updated information on mangrove distribution and classification will be compiled and thematic maps for selected test sites will be produced.

/remote sensing/ /forest trees/
$168415 30 months
-Gadjah Mada University (UGM), Yogyakarta, ID

84-0044 (AFNS)
Highland Afforestation (Peru) - Phase III

The development of the agricultural and forestry sectors in the Andean highlands remains a priority of the government of Peru. The previous phases of this project have gone a long way towards solving the technical problems of growing trees in the Andean highlands. Work carried out in three separate operational zones has identified suitable tree species and techniques. Researchers in this third phase of work will test and compare the growth of selected exotic tree species; establish pilot plantations of the same species for demonstration purposes; and identify suitable native species and techniques for their establishment on highland sites unsuited to exotic species.

/afforestation/ /manmade forests/ /trees/ /agroforestry/
$340920 36 months
-Instituto Nacional Forestal y de Fauna (INFOR), Lima, PE

84-0045 (AFNS)
Arid Zone Afforestation (Peru)

Very little afforestation work was carried out in the past in the arid and desertic areas of South America. The purpose of this project is to develop reliable low cost techniques for the establishment of irrigated forest plantations for forage and wood production, shelter, and erosion control on sites unsuitable for agricultural production in the arid coastal lowlands of Peru. Researchers will determine minimum irrigation requirements for the establishment and economic growth of Prosopis species in the northern coastal lowlands, and investigate various planting densities and mixtures with short-term agricultural crops; identify suitable species for the establishment of irrigated forest plantations for forage and fuelwood production in the southern coastal lowlands; and, determine the feasibility of precipitating fog drip to irrigate forest plantations for forage production in the southern coastal foot-hills.

/afforestation/ /arid zone/ /irrigation/ /manmade forests/ /forest trees/ /silviculture/
$247040 36 months
-Instituto Nacional Forestal y de Fauna (INFOR), Lima, PE

84-0046 (AFNS)
Tissue Culture/Rattan (Malaysia)

After timber, rattan is the most important forest product of Malaysia, providing the raw material for an important cottage industry. There has been an increasing demand for rattan since the 1960's and consequent over-exploitation of potential seed-bearing canes has severely depleted rattan supplies. Lack of seed supply, due to the scarcity of mature plants, has created a serious regeneration problem for commercial species. There is an urgent need to investigate vegetative propagation methods to ensure future planting stock. Researchers on this project will develop techniques for in vitro culture of commercial rattans; use the techniques to mass propagate superior genotypes; and develop indigenous capability in tissue culture of forest tree species.

/palms/ /plant breeding/ /genetic improvement/
$120690 36 months
-Malaysia. Ministry of Primary Industries, Kuala Lumpur, MY

84-0048 (AFNS)
Bamboo Preservation (Indonesia) - Phase II

In Indonesia, bamboo is an important multipurpose raw material used for construction, furniture, kitchenware, and working tools. Results of phase I indicate that the Javanese traditional method of bamboo preservation by water immersion has a significant effect on its durability. Treatment of bamboo with locally available chemicals also proved effective against borer attack. More tests with inexpensive preservatives will be carried out in phase II with a view to finding simple methods that will be easy to disseminate in rural areas. Technical information will also be obtained on the physical and mechanical properties of native bamboo species.

/bamboo/ /testing/
$55400 36 months
-Universitas Gadjah Mada, Yogyakarta, ID

84-0049 (SS HS)
SOCIAL-ECONOMIC CORRELATES OF CHILD NUTRITION (ARGENTINA)

Argentina has a history of generally high nutritional levels, yet there is evidence that important differences exist between social classes with respect to food intake and child malnutrition. Nutritional problems are particularly evident among the urban poor in provincial cities where unemployment and poverty have become widespread. Researchers in this project will examine the socioeconomic determinants and educational consequences of malnutrition among children in Grade One in Cordoba, a small provincial city. Specifically, researchers will assess the nutritional status of children in the study sample; the socioeconomic conditions of the parents and families of these children; the impact of parental knowledge and food consumption habits upon malnutrition; and, the effects of malnutrition on cognitive abilities and school performance.

/MALNUTRITION/ - /CHILDREN/ /LIVING CONDITIONS/ /POVERTY/ /LOW INCOME/
/CULTURAL FACTORS/ /FOOD CONSUMPTION/ /TESTS/ /INTELLIGENCE QUOTIENT/
$93800 18 months
-SOCIEDAD DE SALUD PUBLICA DE CORDOBA, CORDOBA, AR

84-0051 (FAD)
Degree Training: Rice Farming Systems (Bhutan)

The purpose of this project is to provide funds for B.Sc. and M.Sc. degree studies for staff of the Department of Agriculture of Bhutan. The project shares the overall objective of the AFNS-supported project Rice Farming Systems (Bhutan) namely: to assist Bhutan in the development of appropriate technology which can increase productivity in rice growing areas while increasing the income and nutritional status of small farm households. At the end of the 5 years of the AFNS-FAD cooperation on this project, it is envisaged that the Department of Agriculture will have a core of trained senior staff to undertake a coordinated program of on-station and on-farm research.

/agricultural research/ /university degrees/
$172880 36 months
-International Rice Research Institute (IRRI), Manila, PH

84-0052 (HS)
Cervical Dysplasia (Kenya)

At present, almost nothing is known about the prevalence of cervical dysplasia (abnormal development or growth of the cervix), uterine precancer, cancer and infection among Kenyan women. Early detection and treatment of cervical dysplasia are known to reduce mortality from that disease by 50 percent. Such routine diagnostic work, however, is not being done at present, especially in rural areas. The purpose of this project is to determine the status of rural women regarding dysplasia and cancer of the cervix and uterus. Researchers will train two cytotechnicians in the methods of diagnostic cytology. (Cytology deals with the structure, function, multiplication, pathology and life history of cells.)

/women/ /cancer/ /urogenital system/ /diagnosis/ /training/
$47090 12 months
-Kenya Medical Research Institute, Nairobi, KE

84-0053 (IS)
PNG Information Network

The poorly developed communication infrastructure within Papua New Guinea impedes the flow of information and data within the country. The objectives of this project are to create a data base of New Guinean information materials; to deposit microfiche copies of the publications in five strategic locations throughout the country, thus establishing an information network and document delivery system; and to commence automation of the cataloguing operations of the University of Papua New Guinea's library.

/information network/ /economic and social development/ /data bases/
/bibliography/ /library automation/ /cataloguing/
$301740 24 months
-University of Papua New Guinea, Port Moresby, PG

84-0054 (HS)
B. C. G. VACCINATION (KENYA)

Tuberculosis (TB) is a chronic infectious disease and still an important cause of illness and death in Kenya. There has been a growing interest in vaccination measures for the control of TB. The vaccine commonly used is BCG (Bacillus Calmette-Guérin). Although the vaccine has been used extensively in the West and in many developing countries, results from recent field studies in India have raised questions as to the protective effect of the vaccine. This project will evaluate the effectiveness of BCG vaccination in Kenyan children aged 4 years and under; and determine the prevalence and characteristics of TB in children aged 4 years and under who are contacts of new cases of TB.

/VACCINES/ - /TUBERCULOSIS/ /VACCINATION/ /CHILDREN/ /EPIDEMIOLOGY/
/DISEASE CONTROL/
$93630 36 months
-KENYA MEDICAL RESEARCH INSTITUTE, NAIROBI, KE

84-0055 (SS)
Changing Class Structure (Chile)

Changes in economic policy can produce dramatic effects, both economic and social. In Chile, the middle class lost its traditional access to secure employment in the civil service, but opportunities for entrepreneurial livelihood have increased. How the middle class has adapted to these new constraints and opportunities is unclear. Researchers on this project will analyze changes in the structure and aspirations of the Chilean middle class over the last 10 years. Specifically, the researchers will record occupational histories, as well as analyze demands and aspirations in terms of income level, security of employment, opportunities for social mobility, etc.

/social structure/ /middle class/ /employment opportunities/ /social
mobility/ /adaptation to change/
$81800 18 months
-SUR, Profesionales Consultores Ltda., Santiago, CL

84-0056 (SS)
Economic Restructuring (Uruguay)

Uruguay is experiencing high unemployment, negative economic growth and rapid inflation. This project will permit the Centro de Investigaciones Economicas (CINVE) to integrate previous and new studies into an overall analysis of economic restructuring options. Researchers will update and improve the input-output table for the country, study how consumer demand patterns have changed since 1973, and suggest potential economic policy instruments to achieve restructuring.

/economic structure/ /economic policy/ /economic evaluation/ /input-output
tables/ /consumer demand/
$182400 24 months
-Centro de Investigaciones Economicas (CINVE), Montevideo, UY

84-0057 (IS)
National Health Information Network (Colombia)

In Colombia, better access to health information has been recognized as a means of improving government planning. The purpose of this project is to develop a national health information network, within the framework of the regional health information network coordinated by the Latin American Health Sciences Information Center. An advisory committee will be established to oversee the operation of the network. Project participants will adapt existing national and regional information tools and methodologies to the network's needs, develop a national bibliographic data base in the health sciences, and produce four issues of a national bibliography. Personnel will be trained in up-to-date techniques for collecting, processing and disseminating national health literature.

/health/ /information network/ /bibliography/ /technical assistance/
$200000   24 months
-Federacion Panamericana de Asociaciones de Facultades (Escuelas) de Medicina (FEPAFEM), Bogota, CO

84-0058 (SS)
CHANGING AUDIENCES OF MASS MEDIA IN MONTEVIDEO

Over the last 10 years Uruguay's mass media have grown enormously, particularly television. The impact of this expansion, however, is unclear. In many countries TV is restricted in its ability to disseminate information while free to serve the values and beliefs of dominant political and economic interests. Whether these values are being absorbed by the viewing audience and whether the audience's perception of the media has changed as a result are questions not yet examined. The objective of this project is to investigate the role of television in Uruguay by assessing its impact in terms of changes in the attitudes, opinions, and expectations of different social groups toward the mass media and development. Researchers will identify the most popular TV programs among a sample of individuals representing different social groups in the city of Montevideo; and analyze the content and messages of these programs.

/TELEVISION/ - /MASS COMMUNICATION/ /ATTITUDES/ /PUBLIC OPINION/
$26600   12 months
-CENTRO LATINOAMERICANO DE ECONOMIA HUMANA (CLAEH), MONTEVIDEO, UY

84-0059 (HS)
Fortifying MSG With Vitamin A (Indonesia)

Xerophthalmia, an eye disease caused by vitamin A deficiency, is, after trachoma and cataracts, the most common cause of blindness in the developing world. Vitamin A deficiency has long been recognized as a problem in Indonesia. The purpose of this project is to investigate the possibility of delivering vitamin A to high-risk children through the fortification of monosodium glutamate (MSG), a commonly used food additive. Researchers will test the ability of fortified MSG to reduce the early signs of xerophthalmia in children and to increase vitamin A levels in children and in lactating mothers' breast milk.

/deficiency diseases/ /vitamin deficiency/ /blindness/ /children/ /food additives/ /disease control/
$96240   19 months
-Helen Keller International Inc., New York, US

84-0060 (HS)
Gastroenteritis (Chile) -- Phase II

Enteric infections bear a close relationship to environmental conditions and to the socioeconomic status of the population. The consequence of poor sanitation is repeated gastrointestinal infections and generally reduced health levels, which affect eventual growth and development. In phase I of this project, researchers attempted to assess the impact on the incidence and etiology of diarrhoeal disease, of the relocation of slum populations in Santiago, Chile, into better housing with improved sanitary facilities. In general it was shown that decreases did occur, in the relocated families, of episodes of diarrhoea, especially in children under 7 years of age. Researchers in phase II will continue to assess the direct and indirect effects of the relocation with emphasis on the impact on the nutritional status of children.

/diarrhea/ /epidemiology/ /human nutrition/ /living conditions/ /housing/ /sanitation/
$191260 24 months
-Instituto de Nutricion y Tecnologia de los Alimentos, Santiago, CL

84-0061 (HS)
Chiang Mai Lactation Study (Thailand)

It is now commonly accepted that human milk is the best food for human babies, and in Thailand the government actively encourages breast feeding. The most important single variable in the nutritional value of human milk is its fat content. A new measuring system has recently become available in Thailand for the accurate assessment of breast milk quantity and quality. It consists of a thin, soft latex nipple shield, with a built-in sampling line and flow meter. An IDRC-supported study already has shown that the shield does not interfere with prolactin response in nursing mothers, and therefore should not inhibit milk flows. This project will further evaluate the shield under field conditions in Northern Thailand. Researchers will then investigate the effects on infant growth of different breast feeding patterns, the timing and nature of food supplementation, and the use of hormonal contraception.

/breast feeding/ /measurement/ /child development/
$204695 36 months
-Chiang Mai University, Chiang Mai, TH

84-0062 (SS AFNS)
ICRISAT Bridging Grant (West Africa)

In the first phase of this project, researchers investigated traditional farming systems in three agro-climatic zones of West Africa. An infrastructure for detailed research in the area was established. This grant will provide continuing support for rural socioeconomic research, under the auspices of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). The grant represents bridging support for one year between phase I and a proposal from ICRISAT for phase II. A primary objective of this bridging grant is to develop a close working relationship between ICRISAT and national agricultural research programs.

/farming systems/ /organization of research/ /land use/ /land tenure/ /crop yield/ /standard of living/ /family budget/
$200000 12 months
-International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad, IN

84-0063 (IS)
Latin American Trade Information Network (RELIC)

In 1981 a Latin American Trade Information Network (RELIC) was established with a coordinating centre in Lima, Peru. RELIC member countries assist each other in feasibility studies, systems design, software development, program implementation, training, etc. The purpose of this project is to strengthen RELIC by providing support to the three least developed national centres of the network (Bolivia, Honduras and Nicaragua) to enable them to participate fully in the network.

/information network/ /international trade/ /systems design/ /information exchange/ /information dissemination/ /training/
$337000 24 months
-International Trade Centre UNCTAD/GATT (ITC), Geneva, CH

84-0064 (SS)
Technological Perspectives (Latin America)

After the Second World War, most countries in Latin America formulated new policies and provided increased resources to build national scientific and technological capability. The purpose of this project is to support a network of researchers in Argentina, Brazil, Mexico and Venezuela to identify the scientific research and development capabilities within their countries and the main trends of technological change. The researchers will also analyze possible ecological impacts of different development scenarios. Research findings will be used in formulating science and technology policies in the region.

/technological change/ /research and development/ /science policy/
$134990 18 months
-United Nations University, Tokyo, JP

84-0066 (AFNS)
African Agroforestry Network (ICRAF)

Shifting cultivation, in which the land is cultivated for one year and kept fallow for 5 to 10 years, is the predominant form of land use in Africa. Reduction in the fallow cycle, necessitated by population pressure, has caused a reduction in crop yields and soil fertility. The International Council for Research in Agroforestry (ICRAF) was created to promote the development of agroforestry, that is, the growing of crops and trees together. The incorporation of woody perennials into existing farming systems would produce food and/or fodder in combination with fuel and timber, and protect and restore soil quality. This project will support the development of an agroforestry research network in the Sub-Sahara region. National institutions that offer the best opportunities to develop agroforestry technologies will be identified.

/agroforestry/ /organization of research/
$521080 24 months
-International Council for Research in Agroforestry (ICRAF), Nairobi, KE

84-0067 (IS HS)
Water Supply and Sanitation Research Information System (Latin America)

The Pan American Center for Sanitary Engineering and Environmental Sciences (CEPIS) is a technology transfer centre in water supply, sanitation, and environmental health serving the Latin American and Caribbean regions. This project will enable CEPIS to develop a survey methodology for evaluating the present situation and trends of water supply and sanitation research in Latin America, to demonstrate its application in selected countries, and to establish a regional research information system. Researchers will pretest survey instruments and methodologies in Peru; prepare a draft manual on the survey methodology; conduct surveys in Peru, Colombia, Chile, and Guatemala and assess the quality of the data collected; and disseminate the results to appropriate regional and national institutions.

/surveys/ /methodology/ /water supply/ /sanitation/ /social research/ /information systems/
$140000 21 months
-Pan American Health Organization (PAHO), Washington, US

84-0068 (SS)
Populating the Northeast Region of Ivory Coast (Ivory Coast)

This project will study the problem of development in the sparsely populated Northeast region of the Ivory Coast, an economically poor area inhabited by both nomadic peoples and farmers. Land settlement patterns, land use, the social structures, economic behaviour and problems between ethnic groups will be studied. Surveys of villages and households will be conducted to gather data on social, economic and cultural aspects of life in the Northeast, especially in light of the differences between the ethnic groups which lives in the savanna and the forest. The final purpose of this project is to provide training experience for young social scientists who will carry out and analyse the field studies. The results will be presented at a seminar and then reported to local government agencies.

/social surveys/ /land settlement/ /rural development/ /internal migrations/ /ethnic factors/
$128900 24 months
-Université d'Abidjan. Département de géographie, Abidjan, CI

84-0070 (SS)
Infant and Child Mortality (South East Asia)

Until recently little attention has been devoted by social and health scientists to the social, economic and environmental factors influencing infant mortality levels and trends. This project will establish a program of research awards, technical assistance and policy discussions on infant and child mortality in Southeast Asia. The intention of the project is to increase the capacity of researchers in selected countries, principally Indonesia, Thailand and the Philippines, to conduct high-quality multidisciplinary research. Research results will be disseminated to national health and development policymakers and program managers.

/mortality/ /children/ /infant mortality/ /child care/ /maternal and child health/
$300000 36 months
-Population Council, New York, US

84-0071 (SS)
Urban Development and Policies (Ecuador)

Ecuador's urban population is increasing at more than 4 percent per year. Policymakers and planners need reliable information and recommendations to manage this growth better. Researchers on this project will analyze the contemporary problems of urbanization; review and assess government policies affecting urbanization; project urban trends into the next two decades; and make recommendations to assist policymakers.

/urban development/ /urbanization/ /government policy/ /trends/
$246000 36 months
-Centro de Investigaciones Ciudad, Quito, EC

84-0072 (HS)
Childhood Diarrhea (Kenya)

In Kenya, diarrheal disease is the major cause of childhood morbidity and mortality. No studies in East Africa have yet been undertaken to evaluate the community-based management of diarrhea within the context of primary health care programs. Data on the use of ORT (oral rehydration therapy) in rural areas is particularly lacking. Researchers in this project will investigate the epidemiology of diarrhea in a rural area of Kenya, and at the same time evaluate different approaches to diarrheal management. Specifically, researchers will study the incidence of diarrhea among children under five; determine mortality rates; investigate the etilogic agents responsible for diarrhea; and, study the knowledge, attitudes and practices of the community with respect to diarrheal disease and its management.

/diarrhea/ /epidemiology/ /children/ /disease control/ /primary health care/ /health education/
$307280 30 months
-Kenya Medical Research Institute, Nairobi, KE

84-0073 (IS)
Latin American Health Information Network

The Latin American Health Sciences Information Center (BIREME) was established to contribute to the improvement of health care in The Latin America and the Caribbean through the promotion of a regional network of health science libraries and information centres. This project will enable BIREME to develop a regional information system supporting the goal of "health for all", and to initiate bibliographic control of the health-related literature produced in the region. Project participants will construct a draft thesaurus in the area of public health; build a regional data base in public health and strengthen the regional biomedical data base; and provide training in the processing of literature.

/public health/ /information network/ /thesaurus/ /technical assistance/
$392600 24 months
-Pan American Health Organization (PAHO), Washington, US

84-0074 (HS)
Nutritional Risk Factors (Philippines)

It has been estimated that two-thirds of all children in the developing world are malnourished to some degree. Researchers at the University of the Philippines are proposing in this project to investigate to what extent various levels of malnutrition contribute to morbidity and mortality among Philippine children. Specifically, researchers will investigate the relationship between anthropometric measurements with respect to morbidity and mortality; and, establish whether there are anthropometric levels below which morbidity and mortality begin to increase. Recommendations will be made to policymakers as to which children should in fact be the primary target for nutrition programs.

/malnutrition/ /children/ /morbidity/ /mortality/
$110880 36 months
-University of the Philippines at Los Banos, Laguna, PH

84-0075 (AFNS)
Goats and Sheep (Zimbabwe)

In Zimbabwe, there is a lack of information on small farm production systems, particularly those practised in communal areas. In this project, researchers will investigate small ruminant production systems of communal lands and develop improved techniques for sheep and goat rearing acceptable to farmers. Specifically, researchers will introduce improved small stock; evaluate the performance of animals on farms; assess the socioeconomic impact of introducing improved animal types; improve the marketing of small ruminants; and develop feeding systems based on browse and crop residues.

/livestock/ /goats/ /sheep/ /animal production/
$236600 36 months
-University of Zimbabwe. Animal Science Department, Harare, ZW

84-0076 (AFNS)
Livestock Production Systems (Tanzania)

Livestock development is a priority of the Government of Tanzania. This project will develop improved practices in pasture management, livestock feeding and herd composition that are acceptable to farmers in the traditional agricultural sector of Central Tanzania. In selected villages, researchers will establish units to demonstrate improved pastures, management, and animal breeds.

/animal production/ /livestock/ /pastures/ /animal husbandry/ /on-farm research/
$317700 36 months
-Livestock Production Research Institute, Mpwapwa, TZ

84-0077 (COMM)
GEMINI NEWS SERVICE

The Gemini News Service was launched in 1967 as an alternative to the larger news agencies, which traditionally reported developing country affairs almost exclusively through the writings of journalists from the developed world. This project will allow Gemini to expand its coverage of science-related subjects over a three-year period, from an average of two feature articles per month to two per week. The project will also establish a system to provide correspondents in developing countries with written feedback on the science articles they submit. The project will increase the flow of well written science articles from journalists in developing countries and stimulate an increase in the number of such features reaching newspapers in both developed and developing countries.

/NEWS/ - /INFORMATION SERVICES/ /SCIENTIFIC INFORMATION/ /WRITING/
$68215 36 months
-NEWSCONCERN INTERNATIONAL FOUNDATION, LONDON, ENGLAND, GB

84-0078 (COMM)
TRAINING IN SCIENCE JOURNALISM (MALAYSIA)

The mass media can play an important role in increasing public awareness of how science and technology can help national development efforts. Unfortunately, the media in Southeast Asia have not been providing adequate coverage of new findings in the applied sciences due to a lack of well-trained science journalists. The purpose of this project is to allow Malaysia's national news agency (BERNAMA) and the Malaysian Press Institute to collaborate on a training program that will bring together Malaysian journalists and representatives from the four national news agencies in Southeast Asia--BERNAMA, ANTARA (Indonesia), PNA (Philippines), and TNA (Thailand). Practical training will be given to 16 journalists in the communication of science and technology news through the mass media.

/TRAINING PROGRAMMES/ - /SCIENTIFIC INFORMATION/ /WRITING/ /INFORMATION EXCHANGE/
$17386 3 months
-BERNAMA, KUALA LUMPUR, MY

84-0079 (HS)
Vaccine Trial Centre (Thailand)

The trial of new vaccines on human volunteers is an essential aspect of the development of any new pharmaceutical product. Up until now, vaccine testing has been done in Western centres, and the developing world has been a "laboratory" for field trials (often done by pharmaceutical companies), with the local authorities having little power to control or monitor the experiments. Recognizing the need for an autonomous regional centre to work on vaccine develoment, Mahidol University and the Thai Ministry of Health, in consultation with the World Health Organization (WHO), will establish and operate a Vaccine Trial Centre. Using strict hygienic and ethical controls, the centre will reduce the need for extensive field trials. Researchers will evaluate the reactivity, efficacy, and possible side effects of living and non-living vaccines.

/vaccines/ /research centres/ /immunology/
$191435 12 months
-Mahidol University, Bangkok, TH

84-0080 (HS)
Water Pollution (Tunisia)

In the majority of developing countries water quality is not monitored nor is water treated before it is used by humans. Consequently, the pollution of rivers creates serious health problems to those who consume contaminated water. Often, neither the type nor the concentration of pollutants are known. This project will set up a methodology to analyze water samples and control the chemical and bacteriological quality of the water in the Medjerda River, one of the principle waterways in Tunisia. The research team will also investigate various sources of pollution from industrial wastes and will examine water treatment plants under construction or currently in operation. The system to monitor and maintain an acceptable standard of water quality should have a positive effect on the nation's public health. A report of the project's results will be prepared by the Ministry of Public Health in order to facilitate the strategic planning of water treatment programs for other major rivers in Tunisia.

/water pollution/ /water quality/ /public health/
$59840 18 months
-Tunisie. Ministère de la Santé publique, Tunis, TN

84-0081 (AFNS)
Banana Processing (Honduras)

Bananas that do not meet export standards in Honduras could be used in banana-based food products. The purpose of this project is to determine the feasibility of establishing a banana-processing plant at a rural banana cooperative. Researchers will establish appropriate ripening procedures for green bananas to ensure good quality products; establish processing procedures to improve the storage life of naturally fermented banana puree; and determine the market potential for banana products.

/bananas/ /agriproduct processing/ /industrial plants/ /feasibility studies/
$97100 12 months
-Instituto Centroamericano de Investigacion y Tecnologia Industrial (ICAITI), Guatemala City, GT

84-0083 (SS)
Women and the Participation of Low-Income Households in Urban Services (Peru)

Peru's prolonged economic crisis is putting considerable pressure on the urban poor, particularly women, whose role has become increasingly important in meeting basic family needs. The purpose of this project is to produce information about the participation of women in the procurement of urban social services. Researchers will analyze the nature and extent of urban services and the patterns of access to and utilization of these services by low-income families. They will also evaluate the benefits of these services and the appropriateness of progarams involving women.

/social services/ /women/ /social role/ /behaviour/ /low income/
$71600 19 months
-Instituto de Estudios Socio-Economicos y Fomento del Desarrollo, Lima, PE

84-0084 (SS)
EVALUATION OF HOUSING COOPERATIVES (LATIN AMERICA)

One of the most serious problems accompanying rapid urban growth in Latin America is the persistent lack of housing. To build their own houses, the urban poor must rely on their own resources and those of their friends, relatives and neighbours. In some instances, they pool their resources into housing cooperatives, which help to lower costs, to improve technical and organizational know-how, and to obtain public services. Relatively little information is available, however, of the success or failure of housing cooperatives in Latin America. This project will analyze, using a comparative methodology, seven housing cooperatives in six Latin American countries (Argentina, Costa Rica, Chile, Ecuador, Mexico, and Uruguay). Researchers will produce information that will help in the design and implementation of future housing cooperatives.

/housing cooperatives/ /comparative analysis/
$67200 12 months
-ASOCIACION LATINO AMERICANA PARA LA PROMOCION DEL HABITAT, DEL URBANISMO Y DE LA ARQUITECTURA, QUITO, EC

84-0085 (SS)
POPULAR HOUSING IN AREQUIPA (PERU)

In Arequipa, Peru's second largest city, the population has increased rapidly in the past few decades. In particular, the marginal neighbourhoods surrounding the city, known as pueblos jovenes, have experienced extremely rapid growth. Housing there is a major problem, especially in the more recent neighbourhoods which tend to be the poorest in terms of quality of construction and access to urban services. The objective of this project is to study the technical, economic, social and organizational aspects of popular housing in the pueblos jovenes. Researchers will study house designs, construction techniques and materials, credit sources, and urban service needs. Their intention is to draw lessons from popular housing for possible application to low-cost housing projects.

/HOUSING/ - /LOW INCOME/ /CONSTRUCTION TECHNIQUES/ /CONSTRUCTION MATERIALS/ /SELF-HELP/ /DESIGN/
$42200 12 months
-CENTRO DE ESTUDIOS PARA EL DESARROLLO REGIONAL (CEDER), AREQUIPA, PE

84-0086 (SS)
CULTURAL POLICIES (PERU)

There have been many foreign influences on the national cultures of Peru and today the country is faced with serious difficulties of cultural integration. The government has experimented with cultural policies in the past, with varying degrees of success. This project will identify and analyze the cultural policies carried out over the last 20 years. The policies to be analyzed are those concerned with state subsidies to cultural institutions, state censorship and content of cultural institutions, the access to and participation in cultural institutions of different sectors of society, and the inflow of foreign culture. This analysis will provide insights for future policy formulation.

/CULTURAL POLICY/ - /DEMOCRATIZATION/ /SOCIAL CHANGE/ /CULTURAL INTEGRATION/ /policy making/
$32700 7 months
-GRUPO DE ESTUDIOS PARA EL DESARROLLO (GREDES), LIMA, PE

84-0087 (SS)
MASS AND ALTERNATIVE MEDIA (BOLIVIA)

Bolivia has both commercial, urban-biased mass media, high in foreign content, and a number of small, innovative "alternative" media which respond to the development needs of the common people. The objective of this project is to make recommendations for media policy. Researchers will analyze the structure of ownership, content, advertising, uses of technology, forms of administration, and the regulatory framework of the mass media; analyze the organization, audience, content, and forms of production of the alternative media -- radiophonic schools, radio-stations run by miners' unions, and the university-owned television channels.

/MASS MEDIA/ - /COMMUNICATION POLICY/ /SOCIAL PARTICIPATION/ /ADMINISTRATIVE ASPECTS/ /LEGAL ASPECTS/
$37200 12 months
-CENTRO DE INVESTIGACION Y CONSULTORIA (CINCO), LA PAZ, BO

84-0088 (AFNS)
Root Symbiosis (Sierra Leone)

Shifting cultivation, in which the land is cultivated for one year and kept fallow for 5 to 10 years, is the predominant form of land use in Sierra Leone. Reduction in the fallow cycle, necessitated by population pressure, has caused a reduction in crop yields and soil fertility. One way of dealing with this problem is to plant fast-growing nitrogen-fixing trees which, in addition to improving soil fertility, provide forage, firewood, building materials, and erosion control. The purpose of this project is to identify fast-growing wood legumes with the most efficient nitrogen and/or phosphorus recycling capacity for incorporation into Sierra Leone's agroforestry systems.

/trees/ /nitrogen fixation/ /soil fertility/
$43400 36 months
-University of Sierra Leone, Freetown, SL

84-0089 (SS)
Education Research Development Project (West Africa)

The education research communities of both anglophone and francophone West Africa are fragmented and weak. Researchers often work in isolation from colleagues, without access to new ideas on theory and methodology. This grant will provide low-level funding for meetings, individual research and travel, and consultancies aimed at promoting greater cohesion within the West African research community.

/educational research/ /research fellowships/ /organization of research/
$88700 24 months
-Centre de recherches pour le développement international (CRDI), Dakar, SN

84-0090 (SS)
Handicrafts Studies V (Malaysia)

While official data on handicraft industries in Malaysia are inadequate, it is evident that handicraft industries could play an extremely important role as a source of off-farm employment and have high potential as sources of foreign exchange earnings. This project will study the contributions which handicrafts make to the national economy in terms of primary and secondary employment and foreign exchange earnings; examine the socioeconomic conditions of artisans and their methods of production; and identify constraints to the development of the industry. Data will be collected in rural and urban locations on the weaving, silver and matting industries.

/handicraft/ /cottage industry/ /employment/ /handicraft promotion/
$81400 12 months
-Malaysian Handicrafts Development Corporation, Kuala Lumpur, MY

84-0091 (AFNS)
Enabling Fund (SACCAR)

The South Africa Development Coordinating Committee (SADCC) was established by the Heads of States of nine countries of Southern Africa in order to promote cooperation among members. The need to strengthen cooperation in agricultural research has been identified. This project will support the establishment of the Southern Africa Centre for Cooperation in Agricultural Research (SACCAR). Specifically, project funds will enable an experienced research administrator, over a period of eight months, to develop program directions and agricultural mechanisms for SACCAR.

/agricultural research/ /organization of research/ /research centres/
/work programme/ /scientific cooperation/
$124100 8 months
-Botswana. Ministry of Finance and Development Planning, Gaborone, BW

84-0092 (FAD)
Training Workshop: Qualitative Research in Education

In recent years, the Education Program of IDRC's Social Sciences Division has supported research on the quality of primary education and teacher training. This research has utilized primarily the concepts and methods of qualitative research. The purpose of this project is to train researchers from Latin America in qualitative techniques needed to explore the problems of school culture, education and change. Researchers will receive instruction from social scientists who have worked on both the theoretical and methodological problems of culture and change. Specifically, the course will train approximately 15 education researchers to reevaluate research that has been completed or is in progress. This training will equip researchers to explore more expertly the insights emerging from earlier research on the connection between school culture and social change.

/educational research/ /research methods/ /training courses/
$49300 16 months
-Programa Interdisciplinario de Investigaciones en Educacion (PIIE), Santiago, CL

84-0093 (SS)
Agricultural Organizations (Brazil and Chile)

While peasant organizations in Latin America have been well documented, very little research has been undertaken on organizations representing large-scale farmers. Information on such organizations would be of use to peasant groups attempting to promote their own interests. The purpose of this project is to study the structure and behaviour of organizations representing large agricultural producers in Chile and Brazil. Researchers will attempt to understand the nature and activities of such organizatiions. They will discuss their results with peasant organizations, church groups and other institutions interested in promoting the welfare of disadvantaged groups.

/agricultural enterprises/ /farmers/ /agricultural policy/
$49800 18 months
-Facultad Latinoamericana de Ciencias Sociales (FLACSO), Santiago, CL

84-0094 (SS)
Energy Implications of Industrial Development Strategies (Chile)

Like other Latin American countries, Chile relies heavily on imported oil for its energy supply. Oil consumption can be reduced through short-term policy measures aimed at the more efficient use of energy. The purpose of this project is to analyze and compare alternative strategies of industrial development, with emphasis on the implications for energy supply and demand. Researchers will analyze patterns of energy consumption and supply in the industrial sector, and suggest long-term alternative industrial development strategies. They will also assess and compare the energy and environmental implications of continuing the present trend of industrial development and of pursuing alternative strategies.

/industrial development/ /energy consumption/ /power demand/ /development strategy/
$82300 18 months
-Corporacion de Promocion Universitaria, Santiago, CL

84-0095 (SS)
New Forms of Investment (Yugoslavia)

Foreign direct investment is valued by many developing countries as a means of obtaining foreign exchange, technology, and access to overseas markets. Whether or not these benefits are realized depends on a variety of factors including the nature of the firms involved and nature of home and host country policies. The purpose of this project is to study the motivations and behaviour of Yugoslav firms investing in developing countries. Specifically, researchers will examine the influence of the Yugoslav system of worker-managed enterprises on investment behaviour.

/foreign investments/ /foreign enterprises/ /management/ /technology transfer/
$29300 12 months
-Research Centre for Cooperation with Developing Countries (RCCDC), Ljubljana, YU

84-0096 (SS)
Handicrafts Studies VI (Indonesia)

While official data on handicraft industries in Indonesia are inadequate, it is evident that these industries play extremely important roles as sources of off-farm employment and export earnings. This project will study the contributions which handicrafts make to the national economy in terms of primary and secondary employment and foreign exchange earnings; examine the socioeconomic conditions of artisans and their methods of production; and identify constraints to growth in the industries in order to recommend policy measures for their removal.

/handicraft/ /cottage industry/ /employment/ /handicraft promotion/
$88550 12 months
-Universitas Gadjah Mada, Yogyakarta, ID
-Udayana University. Department of Anthropology, Bali, ID
-Lembaga Pengambangan Teknologi Pedesaan, Java, ID

84-0097 (IS)
Arab Regional Reclamation and Settlement Information Service (ARRSIS)

The International Centre for Rural Development was established as a specialized research institution to investigate and resolve many of the planning and policy problems associated with land improvement, reclamation and re-settlement projects in Egypt. The Centre is well equipped to act as a regional resource for the exchange of information, knowledge, and experimental results pertaining to land improvement and reclamation. The purpose of this project is to enable the Centre to collect, store and disseminate information on all aspects of land reclamation and settlement. The user community of government planners and project managers would be located throughout the Middle East, North Africa and West Asia.

/land reclamation/ /land settlement/ /information exchange/ /information services/
$92880 36 months
-International Centre for Rural Development, Alexandria, EG

84-0098 (SS)
Malaria in the Amazon Frontier (Brazil)

Levels of malaria are high and rising in many areas of Brazil, particularly in the areas of colonization in the Amazon basin. Efforts to control the malaria problem in the Amazon frontier are hindered by the lack of information on conditions there. The purpose of this project is to provide information on social, economic and cultural factors associated with malaria in the region. Researchers will study economic activity and migration flows in the São Felix do Xingu area; develop and test a methodology for collecting data on malaria prevalence and for identifying determinants; and evaluate the effectiveness of malaria control health services, and make appropriate policy recommendations.

/malaria/ /epidemiology/ /methodology/ /disease control/ /health services/
$94300 18 months
-Centro de Desenvolvimento e Planejamento Regional (CEDEPLAR), Minas Gerais, BR

84-0099 (HS)
Rotavirus in Newborns (Chile)

In Chile, diarrheal disease in children remains a major cause of death and illness. But much remains to be understood about the etiology of Rotavirus infection, which is a major cause of the disease, and about the development of immunity. The purpose of this project is to investigate the transmission of Rotavirus infection to the newborn and improve the methodology for detection of the virus.

/diarrhea/ /infants/ /viruses/ /disease transmission/ /diagnosis/ /methodology/
$81840 15 months
-Instituto de Nutricion y Tecnologia de los Alimentos (INTA), Santiago, CL

84-0100 (SS)
Technology Policy Failures (Nigeria)

It has been argued that the poor performance of the Nigerian public service has frustrated efforts to formulate an effective technology policy. Researchers on this project will examine various technology policy initiatives undertaken in different sectors in Nigeria during the past decade with a view to establishing why they failed. Researchers will examine the process of technological decision-making, comparing performances in the public and private sectors. The researchers hope to make recommendations that will lead to more systematically planned technological development.

/science policy/ /policy making/ /evaluation/
$35800 18 months
-Nigerian Institute of Social and Economic Research (NISER), Lagos, NG

84-0101 (SS)
Peasant Technology Survey (Paraguay) - Phase II

The first phase of this project consisted of a survey which examined the behaviour and attitudes of peasant farmers in Paraguay to crop production and their use of technology. The information collected will provide a base line by which to judge changes in traditional peasant agriculture and to evaluate the introduction of new farming methods and technology. The second phase of this project is a continuation of the first phase and will involve the re-analysis of current data, the preparation and diffusion of a series of reports and further research.

/agricultural production/ /technological change/ /peasants/ /attitudes/ /surveys/
$97000 15 months
-Centro Paraguayo de Estudios Sociologicos (CPES), Asuncion, PY

84-0102 (COMM)
Training of Science Journalism Teachers (Latin America)

The dissemination of development-related scientific information via the mass media remains weak in Latin America, especially in the Andean countries. This project will permit the Faculty of Social Communications at Javeriana University, in Bogota, Colombia, to brief teachers from selected Andean schools of communications on the role of science and science journalists in the community. The teachers will also be instructed in training methodology, curriculum development, and techniques for teaching science writing.

/writing/ /higher education/ /scientific information/ /teacher training/
$29875 6 months
-Pontificia Universidad Javeriana, Bogota, CO

84-0103 (FAD)
Training Workshop: Quantitative Research in Education

This project will support a series of group training courses on quantitative research methods and program evaluation in education. The courses will be organized by education research institutions in Peru, Mexico and Colombia for the benefit of junior researchers and the personnel of Ministries of Education. Approximately 20 participants are expected to attend each course.

/educational research/ /research methods/ /training courses/
$23960 12 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), Ottawa, CA

84-0104 (FAD)
Training Course: Animal Production Systems

IDRC supports a number of projects in Latin America on animal production systems. Researchers on these projects are linked in a network that was formed to promote the exchange of experiences, develop research methodologies, encourage the use of regional expertise, and train researchers. This project will provide funds for a practical training course on animal production systems simulation and linear programming to 10 participants in the network.

/animal production/ /research methods/ /training courses/
$31460 6 months
-Centro Agronómico Tropical de Investigación y Ensenanza (CATIE), Turrialba, CR

84-0105 (AFNS)
By-Products (Cameroon)

In Cameroon small ruminants, sheep and goats, are an important part of the farming systems in the Northwest Province. However, ruminant productivity remains low due to in-breeding and a scarcity of feed resources. The purpose of this project is to increase productivity through improved feeding systems, using by-products and roughages from local field crops. Researchers will identify the most important by-products, and estimate the quantities produced and their availability for livestock feeding. They will also develop appropriate feeding systems for goats and sheep, and determine the effects of improved feeding systems on small ruminant production systems in on-farm trials.

/by-products/ /feed/ /animal production/ /sheep/ /goats/ /feed supplements/
$124900 36 months
-Cameroun. Ministère de l'enseignement supérieur et de la recherche scientifique, Yaoundé, CM

84-0106 (SO SS)
Agrarian Law and Rural Development (Indonesia)

'Teseng' refers to widespread production-sharing agreements between landowners and tenant tillers in rice-growing areas of South Sulawesi, Indonesia. It is unclear whether these arrangements conform to the provisions of Agrarian Law or whether the Agrarian Law should be enforced. The purpose of this project is to study the effects of Agrarian Law on customary production-sharing arrangements between landowners and tenants. Researchers will study customary teseng agreements and their evolution, as well as the extent to which national Agrarian Law has been implemented. They will also examine the implications of these factors for national land law, and rural and agricultural development policy.

/tenant farmers/ /legislation/ /customary law/ /land tenure/ /land use/
$36000   14 months
-Hasanuddin University, South Sulawesi, ID

84-0107 (SS)
Agriculture-Population Interrelations -- Eastern Province (Zambia)

Population mobility and labour utilization as they relate to agricultural production are not well understood in Zambia. On the one hand, people are moving into agriculture as wage labourers; on the other hand, there is movement out of agriculture to employment in other sectors of the economy. The purpose of this project is to increase understanding of these interrelations in the Eastern Province. Researchers will assess agricultural production and marketing systems in the area of Petauke; describe fertility, marriage and migration patterns; determine the range of social and economic adaptations to changing and different agricultural conditions; and examine the role of contract migrant labour and remittances in rural households.

/agricultural production/ /labour mobility/ /population dynamics/ /migrant workers/ /remittances/
$91000   30 months
-University of Zambia (UNZA), Lusaka, ZM

84-0108 (SS)
Fuel Alcohol Technology Policy (Kenya and Other African Countries)

Due to the rising cost of oil, much attention has been focussed on attempts to convert agricultural produce to 'power' alcohol. Currently three countries in Africa produce power alcohol: Zimbabwe, Kenya and Malawi. The purpose of this project is to examine technology and energy policies relevant to the development of power alcohol technology in these countries. Researchers will analyze the existing and proposed fuel alcohol program of Kenya; determine the local conditions (i.e. foreign exchange, local technological capacity and raw material availability) which have affected the development of power alcohol; and analyze changes in the international market for power alcohol technology.

/science policy/ /energy policy/ /alcohol/ /fuels/ /power generation/ /research and development/ /international market/
$74000   18 months
-Public Law Institute, Nairobi, KE

84-0109 (SS)
Impact of Urban Development (Jordan)

In recent years the Government of Jordan has given priority to urban development programs designed to upgrade low-income squatter areas within the capital city of Amman. This project will analyze the impact of the Amman Municipal Upgrading Projects on the socioeconomic, demographic and health conditions of households affected by such schemes. Before the upgrading schemes began, a baseline survey was undertaken by the Urban Development Department of the Municipality of Amman. Researchers will conduct a post-evaluation survey that will shed light on the interrelationships between urban development and demographic/health variables.

/urban development/ /urban renewal/ /squatters/ /living conditions/ /health indicators/
$82500 18 months
-Municipality of Amman, Amman, JO

84-0110 (SS)
Manufacturing Sector (Lesotho)

The economy of Lesotho has been dependent on earnings of migrant workers in the mines of South Africa, and such job opportunities are now decreasing. While the manufacturing sector is quite small, it must expand in order to offer employment opportunities. The purpose of this project is to analyze and evaluate industrial policy in the manufacturing sector. Specifically, researchers will analyze the linkages between that sector and agricultural activity; evaluate present tax incentives and other subsidies provided by government to manufacturing; and suggest ways in which manufacturing exports can be increased in order to expand employment in the sector.

/manufacturing/ /industrial policy/ /export planning/ /tax incentives/
$33500 12 months
-National University of Lesotho, Maseru, LS

84-0111 (HS)
Macroinvertebrate Survey (Korea)

Environmental pollution due to population increases and urbanization is becoming a serious problem in the Republic of Korea. Proper assessment of the nature and extent of the pollution requires a monitoring system that can detect environmental changes. The purpose of this project is to establish a methodology for assessing water quality using macroinvertebrates (arthropods and mollusks). Researchers will develop a biological monitoring scheme to assess water quality based on the premise that in a polluted stream there are usually large numbers of few species, while in clean streams there are moderate numbers of many species.

/aquatic environment/ /water quality/ /environmental management/ /river pollution/ /testing/
$68375 24 months
-Yonsei University College of Medicine, Seoul, KR

84-0112 (AFNS)
Process Improvement (Philippines)

The Philippines has more than 800 fish sauce (patis) and fish paste (bagoong) factories. Next to bakeries, they represent the country's most important small-scale food industry. The purpose of this project is to improve the operations of small-scale patis factories by reducing the traditional process time. Researchers will document processing and economic conditions of selected patis factories; develop and test improved operating and control procedures, with particular attention to reduced fermentation times; and disseminate results to other patis manufacturers.

/fishery product processing/ /food industry/ /fermentation/ /quality control/ /factory organization/
$119100 36 months
-National Institute of Science and Technology, Manila, PH

84-0113 (AFNS)
Coffee Berry Borer (CIBC/Mexico)

In 1978, the coffee berry borer (CBB), a pest of African origin to which commercially available coffees have little genetic tolerance or resistance, was discovered in Mexico. Attempts to control CBB with chemical pesticides have proven costly, affect the environment adversely, and constitute a health hazard. The purpose of this project is to reduce CBB damage by means of biological control. Researchers will collect natural enemies of CBB in East and West Africa; rear disease- and pest-free parasites in Africa and England; and introduce, release, and evaluate the effects of parasites in Mexico and elsewhere in the Americas.

/insect pests/ /pest control/ /biological control/
$329500 36 months
-Commonwealth Institute of Biological Control (CIBC), Ascot, Berks, GB

84-0114 (AFNS)
Farming Systems and Phosphate Rock (IFDC/CIAT) - Phase II

The beneficial effects of local phosphate rock on crops grown on phosphorus-deficient soils in Latin America have been demonstrated. Phase II of this project will continue research begun in phase I to develop an inexpensive and effective source of phosphate fertilizer for small farmers in the Andean region. Researchers will develop appropriate application methods using alternative phosphate rock forms and mixtures. They will also identify and analyze economic policy options that would encourage the use of phosphate rock, and assess potential costs and benefits to the small farmer.

/fertilizers/ /cultivation practices/ /farm size/ /on-farm research/
$755000 36 months
-International Fertilizer Development Center (IFDC), Muscle Shoals, Alabama, US

84-0115 (AFNS)
Process Improvement (Malaysia)

To meet the demands of a growing population, the Malaysian government is encouraging the upgrading of small food-processing plants. The purpose of this project is to improve operations, and hence productivity, profitability, and product quality, of Malaysia's small-scale keropok (fish cracker) factories. Researchers will document the processing and economic conditions of selected keropok factories; develop and test improved operating and control procedures in five factories; and disseminate results to keropok manufacturers.

/food processing/ /food industry/ /quality control/ /factory organization/
$141800 36 months
-Malaysian Agricultural Research and Development Institute (MARDI), Selangor, MY

84-0116 (HS)
Rural Abortion (Nepal)

Abortion, though illegal in Nepal, is widespread there. Most abortions are performed by self-educated practitioners, often using methods that result in injury, infection and death of the mother. This project will assess the extent and characteristics of abortion practice in rural areas in order to produce policy-relevant data for consideration by the authorities. Researchers will determine the rate of unwanted pregnancies leading to traditional abortions; describe the methods of abortion; and determine the rates of abortion-related mortality and complications requiring hospitalization for various abortion methods.

/abortion/ /social surveys/ /women/ /morbidity/ /mortality/
$69400   12 months
-Integrated Development Systems, Kathmandu, NP

84-0117 (AFNS SPA)
Multi-Purpose Dryers (IRRI)

Increased cropping intensity has resulted in increased demands for appropriate post-harvest technology to dry and handle larger volumes of agricultural products. Researchers on this project will field test IRRI (International Rice Research Institute) prototype dryer-storage systems, which are capable of drying a range of food commodities without using fossil fuels to heat or move the drying air. Components of the systems (furnace, vortex wind machine, warehouse dryer structure, drying tray system) will be modified to improve commodities handling and utilize local materials.

/drying/ /storage/ /engineering design/ /agricultural machinery/ /energy/
$447800   36 months
-International Rice Research Institute (IRRI), Los Banos, PH

84-0118 (SS)
Quechua Songs for Radio Programs (Peru)

Radio programs aimed at rural and Quechua-speaking populations are playing an increasingly educational role. These programs however could be improved by adding cultural elements, such as Quechua music, to improve the appeal of these programs. Researchers on this project will compile the most popular Quechua songs, translate them into Spanish, and describe their productive, cultural, and artistic content. Also as part of the project, researchers will analyze the themes and content of the songs according to their region of origin; and on the basis of this information, suggest ways to improve the programming of educational radio programs.

/traditional culture/ /rural population/ /music/ /educational radio/ /mass communication/
$30100   12 months
-Centro Peruano de Estudios Sociales (CEPES), Lima, PE

84-0119 (AFNS)
Indigenous Trees (Mali)

In the vast regions of Africa's Sahel region, the shortage of firewood and forage is accelerating as desertification claims more and more natural forests. Some forestry programs have depended exclusively on the introduction of exotic forest species to combat the critical situation. However, species indigenous to the region are already adapted to climatic conditions and could play an important role. In Mali, officials would like to include indigenous plants in their reforestation programs, but little is known about the characteristics of local species. This project will study in detail the life-cycle of the plants; identify methods for conserving, storing and treating their seeds; develop nursery techniques and analyze plant behaviour; and compare the survival and growth of local plants cultivated using different production techniques in the nursery.

/silviculture/ /forestry research/
$118950 36 months
-Ministère chargé du développement rural du Mali, Bamako, ML

84-0120 (AFNS)
By-Products (Nigeria)

Small ruminants, sheep and goats, have not received much research attention in the past in Nigeria. The development of appropriate technology for preparing feeds from by-products would be a useful contribution to the improvement of the livestock industry. The purpose of this project is to develop and test on-farm feed packages based on cocoa pods and cassava root peels. Researchers will develop methods for drying cassava peels; determine optimal feeding levels of cassava peels for goats and sheep; determine optimum combinations of cassava peels and cocoa pods in goat and sheep rations; and test on-farm feeding systems developed on-station.

/by-products/ /feed/ /feed production/ /animal production/ /on-farm research/
$125600 36 months
-University of Ife. Department of Animal Science, Ile-Ife, NG

84-0121 (AFNS)
Goat Production Systems (Swaziland)

Goats are an important part of the livestock industry of Swaziland. However, unlike cattle, they have rarely been the subject of research. Traditional husbandry systems are largely undocumented. Production constraints and opportunities for overcoming them have not been studied. The purpose of this project is to investigate traditional goat production systems in order to identify social and technical constraints and develop improved management packages.

/goats/ /animal production/ /animal husbandry/
$15500 18 months
-University of Swaziland. Department of Animal Production and Health, Mbabane, SZ

84-0122 (AFNS)
Coffee Processing (Guatemala)

Coffee is the major source of income for thousands of small farmers in Guatemala. Most coffee-producing areas have access to a processing plant or "beneficio" where coffee beans are extracted from the fruit, washed, and dried. More efficient processing plants would be economically beneficial to the farmers. Researchers on this project will study several small coffee cooperative "beneficios". They will collect data on technology and resources used, yields, costs and returns. The data will be analyzed to determine the major areas requiring improvement and an appropriate drying process will be designed and tested during the following coffee season.

/coffee/ /agriproduct processing/ /agricultural cooperatives/ /technical assistance/ /drying/
$174340 36 months
-Instituto Centroamericano de Investigacion y Tecnologia Industrial (ICAITI), Guatemala, GT

84-0123 (SS)
Assessment of Educational Radio Programs (Peru)

In recent years the use of radio for the transmission of educational programs has been increasing in Latin America. Researchers on this project will assess the efficiency of radio programs in rural areas in Peru. Specifically, they will examine how peasants participate in the design and content of educational programs; assess the effect that this participation has on the acceptance and assimilation of radio programs by the listeners; and develop a methodology to evaluate alternative radio programs.

/educational radio/ /rural population/ /peasants/ /decision making/
$24000 6 months
-Centro Peruano de Estudios Sociales (CEPES), Lima, PE

84-0124 (SS)
Montenegro Survey (Yugoslavia)

Within Yugoslavia the Montenegro Republic is relatively undeveloped but contains significant potential for increased agricultural production. Policymakers are now considering a development strategy which could harness this potential, but they lack the information required to design and implement an effective plan. Researchers on this project will undertake a three-year study during which the region's agricultural resources will be surveyed and will suggest promising possibilities for new products. Specifically, researchers will examine land use patterns, the organization of production, and constraints to increased production of livestock, fruit, vegetables and wine.

/agricultural production/ /development potential/ /land use/ /obstacles to development/
$65500 36 months
-Poljoprivredni Institute, Titograd, YU

84-0125 (SS)
Technical Change in Truck Manufacturing (Turkey)

The purpose of this research is to extend the body of knowledge concerning technical change in the manufacturing sector of a developing country. The objective of the research is to contribute to the understanding of the processes of technical change in developing countries by making intra- and inter- country comparisons within the truck manufacturing sector in Turkey. The research will focus on the preparation of comparative case studies which will examine truck manufacturing enterprises with different types of ownership, i.e. foreign owned, locally owned and joint ventures. Specifically, the researchers will undertake a comparative analysis of the nature, direction and rate of technical change in three truck manufacturing plants. The relative importance of factors influencing technical change at the national, industry and plant level will be identified. The researchers will also compare the experience of technical change in the Turkish plants with a similar plant in one of the technology supplying countries.

/technological change/ /manufacturing/ /automobile industry/ /industrial plants/ /case studies/
$36000 30 months
-Part Pazar Arastirma A.S., Istanbul, TR

84-0126 (COMM)
Development Support Communications Supervision and Management

Effective dissemination and utilization of research results is dependent on the availability of well-trained communicators and well-managed and coordinated national communications programs. This project will allow the Department of Agricultural Extension, Ministry of Agriculture and Cooperatives, Thailand, to organize a 5-week training program to address these two constraints. During the first two weeks, both senior personnel and field workers will discuss the planning, implementation, and management of communications campaigns and extension programs and develop a strategy for better interdivisional coordination. It is expected that this joint input will result in better planned and more user-sensitive communications strategies. The last three weeks will provide the field workers with the opportunity to upgrade their practical communications skills and acquire additional skills required for the newly defined initiatives.

/communication/ /media/ /agricultural extension/ /extension services/ /training courses/
$62069 9 months
-Thailand. Ministry of Agriculture and Cooperatives, Bangkok, TH

84-0127 (AFNS)
Cropping Systems (Honduras) - Phase III

Agricultural research and development aimed at increasing crop yields is a major priority in Honduras. Phases I and II of this project focused on modifying the cropping systems used by small farmers in order to increase production and to raise farmers' incomes. In phase III, researchers will conduct trials, both on-station and on-farm, to screen varieties of food crops for high and stable yields. Training programs for research and extension staff and farmers will also be conducted.

/cultivation systems/ /crop yield/ /on-farm research/ /cultivation practices/ /agricultural extension/
$442500 36 months
-Centro Agronómico Tropical de Investigación y Ensenanza (CATIE), Turrialba, CR

84-0128 (FAD SPA)
Energy Awards - Phase II

The purpose of this grant is to provide support, from the Centre's Energy Fund, for individual training awards to increase the capability of researchers and institutions in developing countries to undertake energy-related research.

/research fellowships/ /energy/ /applied research/
$140000 12 months
-INTERNATIONAL DEVELOPMENT RESEARCH CENTRE (IDRC), Ottawa, CA

84-0129 (AFNS)
Milk Production Systems (Chile)

Prospects for increasing milk production in the La Union region of Chile's Valdivia Province are excellent. This project aims at developing efficient milk-beef production systems for small farmers in the region. It will build on the results of two previous projects on pasture development. Specifically, researchers will develop improved crop and forage production and management techniques; and design and test improved milk-beef production systems that are based on improved rotation and utilization of forages and cereal crops.

/milk/ /animal production/ /farming systems/ /pastures/ /forage crops/ /feed production/
$374500 36 months
-Pontificia Universidad Catolica de Chile, Santiago, CL

84-0130 (AFNS)
Dairy/Beef Production Systems (Guatemala)

Livestock and milk production is low in Southern Guatemala, but the potential for improvement is good. This project aims at developing improved dairy/beef production systems for small farmers in the area. Researchers will introduce and evaluate improved pastures, develop improved herd management techniques, and assess animal health. Selected farms within the project areas will be monitored for production constraints.

/animal production/ /pastures/ /forage crops/ /animal husbandry/ /animal breeding/ /on-farm research/
$380000 36 months
-Instituto Interamericano de Cooperacion para la Agricultura (IICA), San José, CR

84-0131 (SS)
Household Energy Consumption in Rio de Janeiro Shantytowns (Brazil)

As a result of massive rural-urban migration, as much as one fifth of Brazil's population already lives in marginal areas (shantytowns or favelas) of major cities such as Rio de Janeiro. Very little is known about the energy consumption pattern of the growing favelas and virtually no explicit policies exist for their adequate supply with energy. This project represents a first attempt to close this significant gap. The researchers will survey the fuel mix and level of energy consumed in selected favelas in Rio de Janeiro. They will utilize the results of the survey and available data on energy consumption in rural areas to assess the energy implications of rural-urban migration. Further, they will assess the impact of a major ongoing programme of linking Rio's favelas to the national grid and of current liquid petroleum gas price rises on cooking habits in the favelas. This project will only be a beginning of what is hoped to be a larger research effort directed at understanding favelas and their energy aspects.

/energy consumption/ /power demand/ /squatters/ /housing/ /rural migrations/ /surveys/
$24300 9 months
-Colegio da America Latina, Rio de Janeiro, BR

84-0132 (AFNS)
Root Symbiosis (Zaire)

The production of basic foodstuffs in Zaire does not meet the needs of the population, especially in the cities. Another major problem is the inadequate supply of the country's most important energy source, firewood, to urban centres. In order to increase agricultural and forestry production without the use of expensive chemical fertilizers, scientists plan to use a biological process known as root symbiosis. This association between some fungi and vascular plants stimulates growth in the host plant and aids in nitrogen-fixation, even under poor soil conditions. This project seeks to apply appropriate techniques, based on laboratory experiments in Canada, to plants found in Zaire and other tropical and humid regions in Africa. In the last phase of the project special fungi will be introduced into the root systems of plants in agricultural areas of Zaire in order to increase crop and forest production.

/plant production/ /fungi/ /microbiology/
$170460 36 months
-Université de Kinshasa. Département de biologie, Kinshasa, ZR

84-0133 (AFNS)
Multipurpose Trees (Ethiopia)

In Ethiopia the practice of cultivating all available land and using manure for fuel has resulted in severe damage to land and farm productivity. The introduction of multipurpose trees would help to alleviate local fuelwood shortages, provide dry season forage for the domestic animal population, and assist in soil conservation. The purpose of this project is to identify suitable multipurpose tree and shrub species for integration into agropastoral production systems in the Ethiopian highlands. Researchers will develop nursery techniques for the production of the most promising species; identify species that may be useful as living fences for crop protection; and determine fuelwood consumption.

/trees/ /agroforestry/ /afforestation/ /grazing/ /fuelwood/
$309480 36 months
-Forestry and Wildlife Conservation Development Authority (FaWCDA), Addis Ababa, ET

84-0134 (AFNS)
Finfish Nutrition (Sri Lanka)

Recognizing the need to provide and sustain a steady supply of local fish, the government of Sri Lanka initiated intensive culture operations to augment the reservoir capture fishery. The effectiveness of a culture operation depends, apart from the proper choice of site, species, etc., on developing low-cost feeds that will be adequate and nutritionally effective throughout the growing period. The purpose of this project is to determine the nutritional requirements of Tilapia (Sarotherodon niloticus) under intensive cultivation. Locally available feeds will be evaluated as alternatives to increasingly expensive and scarce fish-meal.

/aquaculture/ /feed/ /fish meal/
$210820 36 months
-Ruhuna University College. Department of Zoology, Matara, LK

84-0135 (HS)
Traditional and Professional Healers (Philippines)

Traditional medicine is interwoven into Filipino society. An understanding of it is important to an evaluation of health status and health care coverage in the country. It is the purpose of this project to compare the health beliefs and practices of traditional and professional healers in the Province of Iloilo. Findings from this project will be of value in efforts to integrate traditional medicine into the national health plan; will help to improve the teaching curriculum for health students; and will ultimately help to improve the delivery of health care.

/traditional medicine/ /health services/ /health planning/ /primary health care/
$35300 12 months
-Central Philippine University, Iloilo City, PH

84-0136 (AFNS)
Groundnuts (Malawi) - Phase II

Groundnuts have long been an important food and cash crop in Southern Africa. Phase I of this project aimed primarily at producing improved, disease-resistant germplasm for small farmers and at providing support to the national programs in the Southern African Development Coordination Committee (SADCC) region. This second phase will continue to consolidate and strengthen the regional groundnut research program for another two years. Upon completion of phase II, the SADCC Regional Grain Legume Program, to be based in Malawi, will pick up and continue the activities.

/groundnuts/ /genetic improvement/ /organization of research/
$752400 24 months
-International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad, IN

84-0137 (AFNS)
Oilseeds (Sudan) - Phase II

Groundnuts, sesame and soybeans are important oilseed crops for smallholders in Sudan. Average production is low, however, because of low-yielding varieties and poor cultural practices. Researchers in phase I of this project sought to develop improved varieties and agronomic techniques for these crops which would permit increased and more stable yields. In phase II, this work will be continued and will include on-farm testing to evaluate the performance of the most promising cultivars.

/oilseeds/ /genetic improvement/ /groundnuts/ /soybeans/ /cultivation practices/
$309740 36 months
-Sudan. Ministry of Agriculture, Food and Natural Resources, Wad Medani, SD

84-0138 (FAD)
Training Seminar on Qualitative Research Methods in Education

A Training Seminar on Qualitative Research Methods in Education will train participants from Eastern and Southern Africa who are at mid-career or at the early stages of research and teaching careers and who work in research and teaching institutions or with policymaking and curriculum development institutes. A primary purpose of the seminar is to equip researchers with skills in the selective application and use of qualitative techniques in educational research and in integrating qualitative and quantitative methods in tackling research problems already identified as priority research questions within the region. The resultant skills and attitudes are expected to increase the repertoire of research techniques, and widen the participants' potentialities for planning, executing and supervising research as well as teaching courses on educational research methodologies. A second purpose of the seminar is to establish and foster communication among regional researchers interested in qualitative research so as to share research results, methodologies, and experiences within the region.

/educational research/ /methodology/ /training courses/
$41320 6 months
-Kenyatta University College, Nairobi, KE

84-0139 (AFNS)
Technology Transfer Evaluation (Philippines)

All too frequently new agricultural technologies are not adopted by their intended beneficiaries, the farmers. One reason for this is the lack of effective extension services. Recognizing this problem, the Ministry of Agriculture of the Philippines is attempting to develop a regionally based, integrated agricultural research system -- one in which research and extension are linked. Researchers on this project will compare the effectiveness of the new system with that of the traditional one in which research and extension work are separate. The impact of on-farm testing, involving agricultural researchers and extension personnel, will be assessed in terms of farmers' production.

/agricultural research/ /agricultural extension/ /on-farm research/ /evaluation/
$129300 48 months
-Philippines. Ministry of Agriculture, Quezon City, PH

84-0140 (HS)
Iron Supplementation/Diarrheal Disease (Chile)

To combat the problem of iron deficiency in children, the government of Chile is planning to fortify with iron all infant formula distributed through the Milk Supplementation Program of the National Health Service. However, there is concern that high iron levels in infant formula bottles promote the growth of bacteria in the milk and therefore may increase the risk of diarrheal disease. Researchers on this project will evaluate the relationship between the fortification of milk formula and the incidence of diarrheal disease in non-anemic children under two years of age.

/feeding/ /infants/ /milk/ /bacteria/ /diarrhea/
$271060 18 months
-Instituto de Nutricion y Tecnologia de los Alimentos (INTA), Santiago, CL

84-0141 (HS)
PATHweigh Infant Scale (Global) - PATH

Weight is a well established indicator of infant and child health. In developing countries, a problem that has plagued public health programs for many years is the lack of an inexpensive and accurate child-weighing scale. The objective of this project is to complete the development and field-testing of an electronic weighing scale. Researchers will design software for the baby scale; design and mask the custom integrated circuit chip for large-scale production; design and fabricate tooling for production of the scale; and construct 60 units for immediate field trials.

/weight/ /infants/ /measurement/ /electronic equipment/ /engineering design/ /computer programmes/
$45675 6 months
-Program for Appropriate Technology in Health (PATH), Seattle, Washington, US

84-0142 (IS)
Caribbean Technological Consultancy Services Network (CTCS)

Small-scale entrepreneurs in Caribbean countries are in need of information, advice and assistance concerning the choice and application of technology, as well as relevant cost factors. At present, a great deal of money is spent on obtaining expatriate skills to deal with technological questions. The objective of this project is to increase the capacity of Caribbean countries to meet their own requirements for technological expertise. The project will enable the Caribbean Development Bank (CDB) to strengthen and extend its Caribbean Technological Consultancy Services (CTCS) network. CTCS will provide advice and information to local entrepreneurs in order to improve productivity, quality, pricing and marketing.

/technical information/ /information exchange/ /information services/ /technology transfer/
$621490 36 months
-Caribbean Development Bank, Bridgetown, BB

84-0144 (FAD SS)
Research and Training Programme - Cairo Demographic Centre (Egypt) - Phase II

The Cairo Demographic Centre (CDC) was established to support demographic research and training in the Middle East. The CDC program provides training for junior and mid-level government personnel from the region. Phase II of this project will provide fellowship funds for 10 African, Middle Eastern and Asian students enrolled in the General Diploma, Special Diploma, and Master's Program in demography at CDC. Research will be undertaken on fertility and nuptiality in African and Middle Eastern countries, and on labour migrations in some African cities.

/research fellowships/ /demography/ /fertility/ /nuptiality/ /labour migrations/
$131000 12 months
-Cairo Demographic Centre, Cairo, EG

84-0145 (SS)
The School's Role in Developing Civic Values (Peru)

Education plays a central part in the transmission of knowledge and values that shape the political and social characteristics of a society. The purpose of this project is to examine the knowledge and values transmitted by secondary schools regarding social, economic and political conditions in Peru. Specifically, the researchers will examine the content of secondary school textbooks and assess the impact of their educational messages. They will also examine the role of the school in relation to other educational agents, such as the mass media and labour unions, and compare student attitudes in co-educational and gender-segregated schools.

/socialization/ /secondary education/ /value systems/ /social influence/
$134000 18 months
-Universidad Catolica del Peru, Lima, PE

84-0146 (IS)
Indonesian Fisheries Information System (INFIS)

The government of Indonesia wishes to strengthen the country's national network of fisheries libraries and documentation centres. This will ensure that information from fisheries researchers and extension workers is more rapidly disseminated to artisanal fishermen. This project will enable the Indonesian Fisheries Information System (INFIS) to collect, process, repackage and disseminate fisheries literature. It will also make it possible for INFIS to participate in the regional Southeast Asian Fisheries Information System (SEAFIS) and, through this, in the international system, Aquatic Sciences and Fisheries Information System (ASFIS). The emphasis will be on repackaging current literature in the local language and in simple formats designed to meet the requirements of fisheries extension workers.

/information services/ /fishery development/ /information systems/
$173020 36 months
-Directorate General of Fisheries, Jakarta, ID

84-0147 (IS)
Library and Regional Documentation Centre (Asian Institute of Technology)

The Asian Institute of Technology (AIT) is a leading institution in the field of technology and information handling. Through the Asian Information Centre for Geotechnical Engineering (AGE) and the International Ferrocement Information Centre (IFIC), AIT delivers information crucial to engineers, scientists and technicians. This project will enable the Library and Regional Documentation Centre (LRDC) of AIT to enhance its program so that the services and outputs of AGE and IFIC can serve the greatest possible number of users in the region. Specifically, LRDC will conduct user surveys; publish information products (e.g. manuals, do-it-yourself booklets, etc.) in formats that can be easily understood by the clientele; and actively promote the activities of AGE and IFIC.

/technical information/ /specialized information analysis centres/
/information services/
$237950 36 months
-Asian Institute of Technology (AIT), Bangkok, TH

84-0148 (HS)
Evaluation of Community Health Practitioners (Korea)

In the Republic of Korea a new kind of health worker, the Community Health Practitioner (CHP), was introduced in 1981 to deliver health care in rural areas. The CHPs are registered nurses or licenced midwives who receive 24 weeks of supplementary training. While general observations have been published regarding the role of the CHP, a detailed evaluation has never been undertaken. The purpose of this project is to evaluate the role of the CHP in order to improve the delivery of primary health care. Researchers will develop job descriptions for CHPs; evaluate the effectiveness and efficiency of the CHP; and suggest needed changes in the supervisory and training components of the CHP program.

/auxiliary health workers/ /primary health care/ /health services/ /training/
$99470 20 months
-Yonsei University, Seoul, KR

84-0149 (AFNS)
Improved Crops for Small Farmers (Chile)

It is the intention of this project to raise the incomes of small farmers in southern Chile by improving varieties and production techniques for potatoes and cereals. Researchers will introduce, evaluate and disseminate improved potato and cereal varieties in the San Juan area; and introduce and adapt improved management practices for potatoes and cereals.

/potatoes/ /cereals/ /genetic improvement/ /plant breeding/ /cultivation practices/
$307200 36 months
-Universidad Austral de Chile, Valdivia, CL

84-0150 (SS)
Special Research Awards Scheme (Central America)

One of the consequences of the continued political upheaval in Central America has been the destruction of universities in El Salvador and Guatemala and the consequent outmigration of educated people. The purpose of this project is to support the establishment of an awards fund to permit scholars in the region to undertake social and economic research. The focus of the research will be the formulation of alternative solutions to the region's many development problems.

/research fellowships/ /social research/
$181900 24 months
-Confederacion Superior Universitaria Centroamericana (CSUCA), San José, CR

84-0151 (SS)
Sites and Services (Senegal) - Phase III

The rapid population increase in urban areas of developing countries has created an enormous demand for housing and public services. As a result, planners are faced with the problem of land allocation for the construction of low-cost residential dwellings. In Senegal, several projects on land allocation have analyzed and implemented recommendations of the Low-Cost Housing Office in Dakar. This phase III of the Sites and Services project will carry the project to completion and will require extensive evaluation of the project from its inception in 1972, through the problems encountered, to the final stages. It will also study the lessons learned about housing in Senegal and will contribute to the formation of a national Sites and Services program based on the experience in Dakar and Thiès.

/housing/ /project evaluation/ /public services/
$30400 24 months
-Office des Habitations à Loyer Modéré (OHLM), Dakar, SN

84-0152 (AFNS)
On-Farm Research (Kenya)

Farming in Eastern Kenya is risky due to marginal rains, declining soil fertility, and decreasing grazing land. If technologies developed at the National Dryland Farming Research Station (NDFRS) were adopted, farming risks could be reduced. NDFRS research activities include the development of maize, sorghum, millet and bean varieties; the improvement of pigeon pea and cowpea varieties; the development of drought-resistant pastures; and the development and testing of a modified ox-drawn tool bar. Researchers on this project will introduce these technological improvements to small farmers. The project will use an on-farm research approach and information will be exchanged with other on-farm research projects.

/on-farm research/ /agricultural engineering/ /agricultural mechanization/
$412800 36 months
-International Livestock Centre for Africa (ILCA), Addis Ababa, ET
-Kenya. Ministry of Agriculture, Nairobi, KE

84-0153 (IS)
Northeast Thailand: Agricultural Information Outreach

Khon Kaen University has become the centre for agriculture information and research in the Northeastern region of Thailand. Until now, access to the relevant agriculture literature produced in other parts of the country and in the Southeast Asian region has been limited, despite the strengthening of the national AGRIS centre at Kasetsart University. This project will enable Khon Kaen University to access the vast body of relevant Thai and Southeast Asian agricultural literature through SDI and other searches as well as document delivery from the national AGRIS centre thus setting up a mechanism for more active and efficient participation of other local institutions to the AGRIS network.

/AGRIS/ /information services/ /research results/ /information dissemination/
$45590 24 months
-Khon Kaen University, Khon Kaen, TH

84-0154 (HS)
Syphilis (Zambia) - Phase II

The most dreaded complication of the sexually transmitted disease syphilis is congenital syphilis. This occurs when a pregnant woman with syphilis goes untreated and the disease spreads to the fetus. In phase I of this project, researchers uncovered an alarmingly high incidence (13 percent) of syphilis in pregnant women in Zambia. The purpose of phase II is to design and implement a program for antenatal screening and health education, and to assess its effectiveness in reducing the incidence of syphilis in pregnancy.

/venereal diseases/ /diagnosis/ /pregnancy/ /health education/
$242100 24 months
-Zambia. Ministry of Health, Lusaka, ZM

84-0155 (HS)
Typhoid (Chile)

Typhoid is one of the most serious diseases in Chile. The purpose of this project is to determine socio-cultural factors influencing the incidence of this disease in children. Researchers will study family hygiene with regard to personal cleanliness, cooking, feeding, bathing and toilet practices, and relate them to the incidence of typhoid. They will also examine the hygiene of children in their schools and relate it to the transmission of typhoid. In addition, the researchers will determine the presence of Salmonella typhi carriers and their role in the spread of typhoid.

/typhoid/ /epidemiology/ /hygiene/ /disease transmission/ /school age population/ /children/
$105010 30 months
-Instituto de Nutricion y Tecnologia de los Alimentos (INTA), Santiago, CL

84-0157 (SS)
Science and Technology Policy Research Program (Mexico)

The importance of science and technology has been recognized by various governments in Mexico. However, there has been no survey of science and technology institutions since 1975. The lack of information, as well as changing government policy directives, have resulted in frequent disputes over the role of science and technology in the country's economic and social development. The purpose of this project is to support a program of research into science and technology policy. Specifically, funds will be provided for five projects on technology in agriculture, industry, transportation, industrial parks and armaments.

/science policy/ /applied research/
$455800 36 months
-El Colegio de Mexico, Mexico, MX

84-0158 (IS)
DEVSIS Togo

The Government of Togo, specifically the Ministry of Planning, Industry and Administrative Reform, considers very important to set up a system of socioeconomic information. The objective of the project is to develop the existing technical and institutional infrastructure of the Documentation Centre of that Ministry so that it can become a PADIS national unit. The project will allow to collect, process and disseminate socioeconomic information in a more rationalized fashion and to control the socioeconomic, socio-political, and socio-cultural effects of documentation and information in order to maintain permanent contacts betwen information agents and users.

/DEVSIS/ /information exchange/ /regional cooperation/
$183180 24 months
-Togo. Ministère du plan, de l'industrie et de la réforme administrative, Lomé, TG

84-0159 (HS)
Schistosomiasis Control: A Community-based Approach (Zimbabwe)

Schistosomiasis -- a parasitic waterborne disease transmitted by snails which act as intermediate hosts -- remains one of the leading causes of human illness and death in the developing world. The purpose of this project is to design, implement and evaluate an integrated community-based control program in a high-prevalence area of northern Zimbabwe. Researchers will develop and evaluate a self-help program to improve water supply and sanitation systems, and a community-based health education program. The reliability of using inexpensive and rapid urine dipstick tests as a screening method for schistosomiasis will be evaluated.

/schistosomiasis/ /disease control/ /self-help/ /health education/
$470740   36 months
-Ministry of Health, Harare, ZW

84-0160 (IS)
INFOPLAN - Brazil Preliminary Phase

In 1978, the Latin American Planning Information System (INFOPLAN) was established as a way to exchange social and economic information for decision-making by planners. This project will enable Brazil to become an active participant in the INFOPLAN network. The Institute of Planning (IPLAN) will organize its own collections by using INFOPLAN expertise, methodologies, and tools (e.g. the Spanish version of the OECD Macrothesaurus) and will act as the focal point for a national planning information system and network. The project will provide for training in INFOPLAN methodologies; translation into Portuguese of relevant manuals; and the production of a controlled and structured vocabulary of economic and social planning terminology relevant to Brazil and compatible with the OECD Macrothesaurus.

/information systems/ /economic planning/ /social planning/ /information exchange/
$135365   24 months
-Instituto de Planejamento Economico e Social (IPEA), Brasilia, BR

84-0161 (SS)
Teaching Reading in Bilingual Classrooms (Paraguay)

A major problem of education in Paraguay is interference between Guarani, the language of the country's majority and its poor, and Spanish, the language of education and of the elite. Many children fail because teachers in bilingual classrooms do not understand such language problems, especially in reading, and do not know how to solve them. This study will investigate the speech patterns of children in homes and schools, record particular instances of language interference, and prepare experimental reading books and teaching manuals to overcome this interference.

/schooling/ /language barrier/ /primary education/ /reading/
$80300   18 months
-Centro Paraguayo de Estudios Sociologicos (CPES), Asuncion, PY

84-0163 (FAD)
Training Support for Agroforestry Research

Given the potential of multipurpose trees to produce food, fodder, and fuelwood, it is essential to encourage their incorporation into farming systems. This project will support a training course to strengthen the capability of African scientists and development planners to initiate and implement agroforestry research. Approximately 20 scientists from national agricultural and forestry institutions will be trained and four middle-level trainers and research leaders will study and be trained on the job at the International Council for Research in Agroforestry (ICRAF).

/agroforestry/ /agricultural research/ /land use/ /training courses/
$144000 24 months
-International Council for Research in Agroforestry (ICRAF), Nairobi, KE

84-0165 (SS)
School and Community (Bolivia) - Phase III

The overall objective of this project has been to examine the teaching process and the effects of teaching upon student learning with particular focus on the problem of pupil failure. In phases I and II, researchers in Bolivia examined the complex relationships within and between the classroom and the home, and among teachers, pupils and parents. Researchers in phase III will evaluate alternative teaching methods, as well as alternative mechanisms of communication between the school and the community that might lead to the adoption of alternative teaching methods. They will also test ways to train teachers and community leaders and examine the cultural content transmitted by the school.

/schooling/ /learning/ /teaching methods/ /school-community relationships/ /teacher-student relationships/ /cultural factors/
$122600 24 months
-Centro Boliviano de Investigacion y Accion Educativas (CEBIAE), La Paz, BO

84-0166 (IS)
Medical Laboratory Newsletter

The Medical Laboratory Newsletter was established in Thailand to bridge the communication gap among laboratory workers. This project will enable the Faculty of Associated Medical Sciences, Chiang Mai University, to continue publishing the bulletin. It will provide important information on laboratory techniques, describe the care and maintenmance of instruments, point out laboratory problems and out-of-date practices, and discuss subjects ranging from basics to the latest scientific developments.

/newsletter/ /medical research/ /laboratories/ /information dissemination/
$27965 36 months
-Chiang Mai University. Department of Clinical Chemistry, Chiang Mai, TH

84-0167 (SS)
Rural Education Evaluation (Sierra Leone)

The Bunumbu Project was initiated in June 1973, in Sierra Leone, as an attempt at comprehensive educational reform. The project is an ambitious rural education program intended to make primary schools in the rural areas more accessible and relevant to the population. This project will support the government in extending the Bunumbu Project to the rest of the country. Researchers will evaluate the project, identifying the main problems and successes experienced in implementing Bunumbu locally. A set of principles and guidelines for replicating the project will be drawn up.

/educational reforms/ /educational projects/ /educational innovations/ /rural development/ /project evaluation/
$172400 36 months
-University of Sierra Leone, Freetown, SL

84-0168 (SS)
Institutional Support (Academia de Humanismo Cristiano, Chile) - Phase II

The Academia de Humanismo Cristiano (AHC), Santiago, Chile, was established in 1975 in response to the crisis facing researchers, university staff, and students in the social sciences and humanities resulting from the military coup of September 1, 1973. Today, AHC is the single most important institution in Chile involved in research on social problems. The purpose of this project is to provide a second phase of institutional support to the core activities of the Academy for a period of three years in order to strengthen the organization of its overall work. Specifically, the institutional support activity will assist: scholarships, university policy research, library administration and purchases, and general administrative costs.

/social research/
$300000 36 months
-Academia de Humanismo Cristiano (AHC), Santiago, CL

84-0169 (SS)
MEAwards (Egypt) - Phase III

The purpose of the Middle East Population and Development Awards (MEAwards) Program is to initiate, develop, fund and monitor research projects undertaken by scholars resident in the Middle East and North Africa. Phases I and II of this project have demonstrated the role of the MEAwards Program in generating new knowledge, in helping researchers to maintain skills, and in contributing to the policy-making process Phase III will promote continued development of knowledge and research capacity on population and development issues through a series of research awards and associated technical assistance.

/research fellowships/ /social research/ /population/
$229400 24 months
-Population Council, New York, US

84-0171 (COMM)
Training in Science Journalism (Tanzania)

In Tanzania the national media have not been an effective tool for development because they lack personnel who can handle and disseminate development-related information. There is a need for journalists who can communicate science and development information to the predominantly rural Tanzanian public. This project will permit the Ministry of Information and Culture to conduct a national science and development writing training course for 30 Tanzanian print and radio journalists. In addition to imparting professional skills to the journalists, the course will help create a dialogue between scientists and journalists.

/writing/ /science/ /scientific information/ /journalists/ /training courses/
$22364 6 months
-Tanzania. Ministry of Information and Culture, Dar es Salaam, TZ

84-0172 (OPE)
Review of Evaluation Systems (Thailand)

This project is to permit a Thai research team to assess whether the present evaluation system of Thailand in the agriculture and natural resource sector is adequate and comprehensive and whether findings of evaluation studies are used to guide improvements. Research agenda involves a review of all evaluations in agriculture and natural resources sector, the methodologies used, lessons learnt, and institutions and individuals involved in evaluation. An assessment of the linkages between research programs and national developmental needs will be made. This study was developed at a workshop of ASEAN national research managers and similar studies are expected to be carried out in several other countries.

/research programmes/ /evaluation/
$32717 18 months
-Kasetsart University Research and Development Institute, Bangkok, TH

84-0174 (HS)
Weaning Methods (Mali)

Among the children of the developing world, malnutrition in the form of protein and calorie deficiencies leads to severe medical problems and, in many cases, death. In Mali, 30 percent of malnourished children die before the age of five. Malnutrition is often related to the way children are weaned and to the types of food given as a substitute for breast milk. In this project, a survey will be conducted in three rural communities in Mali to determine current weaning practices. The results will serve to develop educational programs on health and nutrition and will lead to new health policies addressing these serious problems.

/malnutrition/ /children/ /maternal and child health/ /protein deficiency/ /deficiency diseases/
$88645 12 months
-Institut national de recherche en santé publique (INRSP), Bamako, ML

84-0175 (AFNS)
Groundnut Industry Economics (Philippines)

Groundnut production could significantly improve the diet and income of Filipino farmers. Formers are reluctant to grow groundnuts, however, partly due to the low viability of seed stored on the farm, and its high cost relative to other crops. The purpose of this project is to define the post-production problems of groundnuts in the Cagayan Valley. Specifically, researchers will describe groundnut production and post-production, and marketing practices; identify socioeconomic factors that may influence the design and use of post-production facilities and equipment; determine the extent of groundnut deterioration at each major post-production stage; and assess the performance and acceptability of the groundnut sheller and stripper developed in Thailand.

/groundnuts/ /post-harvest systems/ /agricultural machinery/
$49910 12 months
-National Food Authority (NFA), Quezon City, PH
-Isabela State University (ISU), Isabela, PH

84-0176 (SS)
Popular Theatre for Development (Cameroon)

Popular theatre uses indigenous dance, songs, poetry and drama to involve communities in an examination of their problems. The purpose of this project is to examine popular theatre as a form of nonformal education for rural development in Cameroon and other African countries. Researchers will identify factors contributing to "successful" popular theatre groups; develop and implement a workshop for training Cameroonian theatre and development workers in the production of popular theatre; and assess the effectiveness of the workshop method.

/theatre/ /adult education/ /social change/ /communication/
$20500 12 months
-Université de Yaoundé, Yaoundé, CM

84-0177 (HS)
Dock Handling Accidents

Mombasa Port (Kilindini) is the main port in Kenya. At present, 12 percent of all industrial accidents in the country occur at the docks of Kilindini, making occupational safety a major health concern. The purpose of this project is to identify ways of reducing injuries and ensuring safer working conditions at the port. Researchers will obtain data on all accidents there for the previous 6 years. They will also collect data on the layout, operations and equipment of the port, as well as on safety controls and maintenance.

/occupational accidents/ /dockers/ /working conditions/ /occupational safety/
$44930 24 months
-Kenya. Ministry of Labour, Nairobi, KE

84-0178 (HS)
Workers' Exposure to Solvents

The rapid industrialization of Kenya has unfortunately been accompanied by a wide range of occupational hazards. Working conditions need to be improved. The purpose of this project is to provide information on the extent of worker exposure to chemicals in the printing/publishing and paint manufacturing industries and on the potential health hazard this represents. Project participants will collect environmental, sociodemographic and occupational data, and will medically examine a sample of workers from each of the two groups of industries. Recommendations for safer work regulations and practices will be made.

/working conditions/ /industry/ /occupational safety/
$93200 24 months
-Kenya. Ministry of Labour, Nairobi, KE

84-0179 (SS)
Indigenous Participation and Resource Management in the Colombian Amazon (Colombia)

Colombia has given little attention to the economic potential of the Amazon River system. The purpose of this project is to study how indigenous communities can actively participate in the development of the region through the use of their knowledge of natural resource management, their social institutions, and their culture. Researchers will collect information on the economic, social and cultural characteristics of the Indians living in the Rio Miriti-Parana region. The research results will contribute to the formulation of regional policy and development programs that maximize indigenous participation.

/regional development/ /rivers/ /development potential/ /indigenous population/
$98700 24 months
-Fundacion Estacion Biologica de Puerto Rastrojo, Bogota, CO

84-0180 (FAD)
Training Workshop: Health Science Applied Research Methods (Zimbabwe)

Instruction in research methods and techniques is seldom included in professional medical training programs in developing countries. This project will provide funds for a short-term training course in applied research methods in the health sciences. Specifically, the course will teach participants from Eastern and Southern Africa to develop research priorities, identify researchable health problems, and write up research proposals and projects.

/research methods/ /applied research/ /epidemiology/ /health manpower/ /training/
$91000 6 months
-Zimbabwe. Ministry of Health, Harare, ZW

84-0181 (COMM)
Science and Technology Features Service (Kenya)

The All Africa Press Service (APS) is a successful weekly news and features service serving all parts of Africa. The purpose of this project is to allow APS to launch a science and technology feature service. As a result of this new service, more articles on science and technology, written by African journalists from an African perspective, will be available to various media.

/scientific information/ /information dissemination/ /mass media/ /news/ /writing/
$12527 12 months
-All Africa Press Service (APS), Nairobi, KE

84-0182 (IS)
Debt Recording and Management System

The increase in external debt in many developing countries has led to a need for better methods of recording, managing, and analyzing information related to a country's overall borrowings. The Commonwealth Secretariat has studied the debt situation in several developing countries and has concluded that a computerized system using readily-available microcomputer technology can solve many of the information problems related to debt management. This project will help support the development and initial testing of the necessary computer software comprising such a system. The resulting tool will find immediate practical application in developing-country situations.

/computer programmes/ /systems design/ /data recording/ /external debt/
$63000 12 months
-Commonwealth Secretariat, London, GB

84-0183 (IS)
Thai National AGRIS Centre - Phase II

The Thai National AGRIS Centre, located at Kasetsart University, is an active participant in the Southeast Asian network for agricultural information (AIBA) and in AGRIS (the International Information System for Agricultural Sciences and Technology). Phase I of this project enabled the Thai AGRIS Centre to establish a national network of information sources and publish a national agricultural bibliography in Thai. This second phase will enable the Centre to take advantage of the computer facilities of the International Buffalo Information Centre, also housed at Kasetsart University. Using mechanized methods, the second phase will improve input of documents into the AIBA/AGRIS network, and consolidate and increase user services.

/AGRIS/ /information services/ /electronic data processing/
$49195 24 months
-Kasetsart University, Bangkok, TH

84-0184 (SS)
Research Methodology Training Program (Indonesia) - Phase II

Indonesia does not have enough well trained researchers to meet the increasing demand for social science research. This project will enable the Population Studies Center of Gadjah Mada University, Yogyakarta, to conduct a series of research workshops to upgrade the social science research skills of university-based researchers involved in studies of population and development. Each workshop will focus on a particular research issue such as migration, infant mortality or the status of women.

/training programmes/ /research workers/ /social research/ /research methods/
$60000 24 months
-Gadjah Mada University, Yogyakarta, ID

84-0185 (HS)
Livestock Wastes (Korea)

Over the past decade livestock farming has increased substantially in South Korea, resulting in a significant increase in livestock-generated wastes. Because there are no regulations to control the disposal of livestock wastes, they are dumped into the public waterways. The purpose of this project is to determine the impact of cattle and pig farming operations on water resources. Both surface water and groundwater in the Anseong River watershed will be studied. Recommendations from the project will assist policymakers in amending the Environmental Protection Act.

/waste disposal/ /agricultural wastes/ /water pollution/ /pollution control/
$94900 18 months
-National Environmental Protection Institute (NEPI), Seoul, KR

84-0186 (HS SPA)
Windmill Water Pumps (Zaire)

Insanitary water supplies pose a health risk to a large number of people who live outside urban areas in the Third World. The situation is particularly serious in Southern Zaire where drought forces people to travel great distances in search of water which sometimes is unsafe to drink. In Zaire, prototypes for wind-powered water pumps have been developed with some success, using spare parts from used automobiles and bicycles. This project will carry out a field study on the application of these water pumps to local conditions. The researchers hope to demonstrate that inexpensive and sturdy water pumps can adequately supply an entire community and that the pumps can be built, installed, operated and maintained by local people.

/pumps/ /drinking water/ /rural areas/
$62095 28 months
-Université de Lubumbashi, Lubumbashi, ZR

84-0187 (HS)
Sanitary Conditions (Nepal)

Unhygienic conditions in the capital city of Nepal, Kathmandu, are responsible for frequent cholera epidemics and intestinal parasitic infections. In order to understand the nature and magnitude of the problem, the Department of Health Services of the Ministry of Health will collect and analyze data on prevailing sanitary conditions and practices within the city. Researchers will determine the reasons for the unsanitary conditions prevalent in households and public comfort stations, and will recommend simple and practical methods to promote and develop proper sanitary measures.

/sanitation/ /living conditions/ /data collecting/ /data analysis/
$46100 24 months
-Nepal. Ministry of Health, Kathmandu, NP

84-0189 (SS AFNS)
Economy of Food Grain (Ivory Coast)

Complete data on the production, marketing and consumption of certain food grains in the Ivory Coast are not available. In order to create an effective strategy for maize, millet and sorghum production, a detailed microeconomic study will be carried out on the cost, price structure and production levels of these three grains in the northern region of the Ivory Coast. A comprehensive data collection scheme will allow researchers to discover why farmers cultivate certain quantities of these grains. It will also analyze the different elements of governmental policy which have an effect on economic behaviour, and will recommend a sound strategy for food production in the region.

/cereals/ /food production/ /market studies/ /economic surveys/
$52000 24 months
-Université nationale de la Côte d'Ivoire, Abidjan, CI

84-0190 (SS)
Impact of Integrated Population Programs - Phase II

The Government of Malaysia recognizes the need for integrating family planning efforts with other development-related activities. Researchers in phase I of this project analyzed the demographic and socioeconomic impact of integrating family planning with community development in the FELDA (Federal Land Development Authority) schemes. It was discovered that the more "integrated" the population-development program, the greater the community support and the greater the impact on development. In this second phase, researchers will expand their study of population-development programs to include not only those in FELDA communities, but also those in traditional rural areas and disadvantaged urban areas.

/family planning programmes/ /community development/ /evaluation/
$91500 18 months
-University of Malaya, Kuala Lumpur, MY

84-0191 (COMM)
Promotion of Science Journalism (ESASWA)

In Eastern and Southern Africa, there is a growing awareness of the role of science and technology in development. The purpose of this project is to enable the Eastern and Southern Africa Science Writers Association (ESASWA) to publish a quarterly package of science news and features. This will facilitate the exchange of ideas and articles among science writers in the news agencies, major newspapers, schools of journalism, and information services. It will also increase interest in, and improve, popular science writing in the region.

/writing/ /scientific information/ /mass media/ /information exchange/
$17756 12 months
-Eastern and Southern Africa Science Writers Association (ESASWA), Dar es Salaam, TZ

84-0192 (SS)
Exchange Rate Policy and Determinants of Personal Savings (Peru)

Since 1975 a succession of military and civilian governments has failed to stabilize the economy of Peru. This inability has led to shifts in economic behaviour, with important implications for the design of macroeconomic policies. The purpose of this project is to examine the determinants of personal savings and the relationship between inflation and devaluation. Researchers will examine the factors influencing the savings behaviour of households and firms. They will also identify the various mechanisms through which currency devaluation affects domestic prices.

/macroeconomics/ /economic policy/ /economic behaviour/ /savings/
/exchange rate/ /devaluation/ /prices/
$76700   18 months
-Grupo de Analisis para el Desarrollo (GRADE), Lima, PE

84-0193 (AFNS)
Andean Farming Systems (Peru)

This project aims to find alternative technological solutions to the crop and animal production problems of small farmers in the Puno region of Peru. The project will support and expand agricultural research and extension programs; update information on predominant farming systems; develop a training program for farmers and technical staff; and provide support and extension services to farmers and communities. On-station and on-farm research will be carried out.

/agricultural production/ /farming systems/ /on-farm research/
/agricultural extension/
$4764900   60 months
-Instituto Nacional de Investigacion y Promocion Agropecuaria (INIPA),
Lima, PE

84-0194 (IS)
DOCPAL Microfiche Exchange

The Latin American Population Documentation System (DOCPAL) at the Centro Latinoamericano de Demografia (CELADE) in Santiago, Chile, has an extensive collection on population research. In Brazil, the Documentation System on Population (DOCPOP) at Fundacao Sistema Estadual de Analise de Dados (SEADE), Sao Paulo, has the strongest Brazilian collection on local population research. However, it lacks much of the material available in Santiago. This project will enable CELADE/DOCPAL to process and microfiche approximately 3500 documents in its collection that are relevant to Brazil, and send them to SEADE/DOCPOP for inclusion in their collection and eventual use by Brazilian researchers.

/information exchange/ /population/ /microfiches/
$25435   12 months
-Comision Economica para America Latina (CEPAL), Santiago, CL

84-0195 (IS)
DOCPAL Peru

The Consejo Nacional de Poblacion (CNP) coordinates and supports population research in Peru. It is currently attempting to satisfy the information needs of population researchers using manual information retrieval methods. This project will enhance CNP's capability to coordinate research through the creation of an automated population information network which will be linked to the Latin American Population Documentation System (DOCPAL).

/information network/ /population/
$80215   24 months
-Consejo Nacional de Poblacion (CNP), Lima, PE

84-0196 (IS)
DOCPAL (Mexico)

This project will aim to lay the groundwork for a national population information network in Mexico which will facilitate access to Mexican literature by researchers and planners. Specifically, the project will enable CONAPO (National Population Council) to establish a national Bibliographic Information Centre on Population and Women, linked to the Latin American Population System (DOCPAL). The documentation centre will act as the coordinating unit for documentation produced at CONAPO; provide information services to technical staff of CONAPO and other interested parties; and establish an information dissemination program through bibliographic bulletins, analytic résumés, etc.

/information network/ /information services/ /population/ /women/
$51655 18 months
-Consejo Nacional de Poblacion (CONAPO), Mexico City, MX

84-0197 (IS)
DOCPAL Brazil Network Development

The Latin American Population Documentation System (DOCPAL) has an extensive collection of literature on population research. While Brazil is already contributing to this regional information network, its involvement has not attained an optimum level. This project aims to improve the collection, processing and dissemination of population-related information through the establishment of a decentralized, national population information network. Participants in this project will provide training to eight institutions in the country, thereby improving access to information on Brazil at both the national and regional levels.

/information network/ /population/ /information exchange/ /access to information/
$96625 24 months
-Fundacao Sistema Estadual de Analise de Dados (SEADE), Sao Paulo, BR

84-0198 (SS)
Skills Training of the Short-Term Offender (Zimbabwe)

Since Zimbabwe's independence nearly four years ago, the country's prison population has increased by about 40 percent. Many of the inmates are short-term offenders, but because they are unskilled and there are no vocational training programs for them, they are excluded from any rehabilitation scheme. This project will examine the viability and the impact of introducing training programs for the short-term offenders with remuneration for prison labour. It is hoped that these offenders will be less likely to relapse into crime than offenders excluded from the training.

/prisoners/ /vocational training/
$14050 10 months
-Zimbabwe Association for Crime Prevention and Rehabilitation of the Offender (ZACRO), Harare, ZW

84-0199 (SS)
Reading Competence of Secondary School Students (Tanzania)

Kiswahili is the national language of Tanzania as well as the language of instruction in the country's primary schools. At the secondary and post-secondary levels, however, instruction is almost entirely in English. Although in recent years attempts have been made to write textbooks for readers whose mother tongue is not English, most secondary schools still use textbooks originally intended for native speakers of English. The purpose of this project is to analyze the difficulties encountered by secondary school students in reading and comprehending textbooks.

/reading/ /english language/ /secondary education/
$21240 18 months
-University of Dar es Salaam, Dar es Salaam, TZ

84-0200 (HS)
Feeding Practices/Infant Mortality (Brazil)

Carefully designed studies on the relationship between feeding practices and infant mortality are extremely rare. There is concern that the progressive decline in the duration of breastfeeding in recent decades may lead to increases in infant mortality. This project, to be conducted in the metropolitan areas of Porto Alegre and Pelotas in Southern Brazil, will investigate the role of different feeding patterns in infant deaths due to diarrhea and other childhood diseases. Characteristics of infants dying from infectious diseases and malnutrition and of surviving control infants will be compared with respect to feeding habits.

/infant mortality/ /feeding/ /maternal and child health/
$98160 24 months
-Universidade Federal de Pelotas, Pelotas, BR

84-0201 (SS)
Educational Research Environment and Capacity (Sri Lanka)

The government of Sri Lanka is considering educational reforms that would enhance the need for and influence of research. The purpose of this project is to study the educational research environment and research capacity in the country. The work will include a review of the research output during the post-independence period (1950-82) set in a social, economic and political context; an assessment of current research capacity and constraints; an analysis of research gaps; and recommendations concerning research priorities and ways of overcoming research constraints.

/educational research/ /research results/ /organization of research/
$18500 18 months
-Marga Institute, Colombo, LK

84-0203 (FAD)
Training Research Information Management

The use of microcomputers for research management and information processing is becoming essential for the efficient operation of research organizations. The purpose of this project is to enable the Mazingira Institute, a small research organization in Nairobi, Kenya, to develop the capacity to design, install, and operate a microcomputer system for research information management. Specifically, the project will provide for in-house training of professional and support staff and on-the-job training of a computer scientist who will assume responsibility for the utilization and operation of the system.

/microprocessors/ /electronic data processing/ /training/
$9680 12 months
-Mazingira Institute, Nairobi, KE

84-0204 (SS)
Management of Obligatory Primary Education (Indonesia)

In 1984, the Indonesian government initiated its unique concept of "obligatory primary education", Wajib Belajar (WB). The law emphasizes first, the obligation of the state to provide a variety of "appropriate alternatives" for primary education, and second, the obligation of citizens to take advantage of them. Committees are to be set up to act as managers of the WB system. The purpose of this project is to collect and analyze data for use in establishing appropriate WB management systems, and to evaluate the effectiveness of such systems once they are established. The project will assist WB committees in monitoring, evaluating and improving their own performance as well as the performance of the WB system.

/primary education/ /educational administration/ /educational innovations/
$95000 36 months
-Sebelas Maret University, Surakarta, ID

84-0205 (SS)
Trends in Fertility and Contraceptive Practice (Brazil)

Between 1960 and 1980, fertility declined in the Southeastern region of Brazil. To understand the factors affecting this trend, researchers on this project will investigate the prevalence of contraceptive practices among women who began their childbearing period after 1950. Among the factors to be examined are age at marriage, breast-feeding practices, abortion and frequency of intercourse, as well as women's socioeconomic situation and area of residence.

/fertility/ /low income/ /contraception/ /females/ /behaviour/
$20600 18 months
-Fundaçao Oswaldo Cruz, Rio de Janeiro, BR

84-0206 (COMM)
Book Publishing (Venezuela and Peru)

The Regional Centre for Book Promotion in Latin America and the Caribbean (CERLAL) is responsible for promoting the production and distribution of books and fostering reading habits. The purpose of this project is to permit CERLAL to gather information and prepare national monographs on book publishing and reading habits in Venezuela and Peru. Researchers will identify constraints facing local publishers and will recommend measures to encourage and promote book production and utilization.
$10165 12 months
-Centro Regional para el Fomento del Libro en America Latina (CERLAL), Bogota, CO

84-0207 (IS)
Caribbean Information Network

This project will enable the Caribbean Documentation Centre (CDC), in Port-of-Spain, Trinidad, to mechanize data processing and production services, allowing users better access to data bases containing information relevant to the region. CDC will continue to input to and manage CARISPLAN (Caribbean Information System for Economic and Social Planning) and other bibliographic data bases. The project will also enable the establishment of a regional information network primarily for the dissemination of patent information. In the Caribbean, patent information plays an important role in the application of science and technology to a country's development.

/information network/ /CARISPLAN/ /information services/ /patents/
$478520 24 months
-Economic Commission for Latin America and the Caribbean (ECLAC), Santiago, CL

84-0208 (HS)
Theythancottai Water Treatment (India)

A recent survey in a village in Tamil Nadu State in India has documented the use of seeds from the Theythancottai tree in the treatment of contaminated surface water. The seeds are rubbed on the inner surface of earthen pots or crushed to form a suspension which is allowed to settle in the water. Suspended solids and bacteria are thereby mechanically removed. This project represents the preliminary phase of a field study to evaluate the effectiveness of this traditional water purification method and promote its use. Researchers will document the different practices involving Theythancottai seeds and will determine the effectiveness of the seeds in tests in the laboratory and home.

/water treatment/ /traditional technology/ /water quality/ /pilot projects/
$5205 12 months
-Christian Medical College and Hospital, Tamil Nadu, IN

84-0209 (SS)
Macroeconomic Research (Brazil) - Phase II

Research on Brazil's economic policy is important as the country's policymakers are confronting a series of difficult choices. Phase I of this project supported the development of an economic policy model. The model succeeded in integrating results of independent studies of the Brazilian economy into a more comprehensive and consistent framework. This second phase has been formulated in response to the results obtained from the first phase and to changing economic conditions. Phase II contains three main components: further refinement of the model and its application to the analysis of public policy; more concentrated research into savings, investment and financial markets; and the promotion of a more systematic exchange of research results.

/macroeconomics/ /economic models/ /economic policy/
$94550 18 months
-Pontificia Universidade Catolica de Rio de Janeiro, Rio de Janeiro, BR

84-0210 (AFNS)
Milk Production Systems (Guyana) - Phase II

Phase I of this project supported milk production research in the intermediate savannah in Guyana. Progress was made in pasture establishment and utilization, and in the characterization of livestock production systems. In phase II research will continue in the intermediate savannah and start in the coastal area. Emphasis will be on establishing grass-legume pastures, defining appropriate pasture management techniques, and designing and testing improved dairy and dairy-beef production systems.

/milk/ /animal production/ /forage crops/ /grazing/ /pastures/
$506000 36 months
-Caribbean Agricultural Research and Development Institute (CARDI), St. Augustine, TT

84-0211 (SS AFNS)
Asian Fisheries Social Sciences Research Network - Phase II

Information on the economics of capture fisheries and aquaculture in Southeast Asia is limited due to a serious shortage of social scientists engaged in fisheries research. Phase I of this project addressed the problem by providing funds for research and staff development to a network of national institutions. As a result, there now exists a small - but identifiable and well qualified - group of Asian social scientists concerned with fisheries issues. Phase II will support an expanded network of institutions in the region by providing funds for research projects, workshops and conferences, and the dissemination of research results. Information will be generated on problems of small-scale fisheries, aquaculture economics, fish marketing and resource policy and management.

/fishery research/ /organization of research/ /aquaculture/
$600000 36 months
-International Centre for Living Aquatic Resources Management (ICLARM), Metro Manila, PH

84-0212 (AFNS)
Shellfish Products (Chile)

Chiloe, a southern island of Chile, is a major reservoir of shellfish, accounting for approximately one quarter of national mollusc production. The purpose of this project is to identify the most beneficial systems for handling, processing and marketing cultivated oysters and mussels, for communities on the Isle of Chiloe. Researchers will identify and test shellfish products with market potential, and will recommend research and development programs for improving the shellfish industry on the island.

/shellfish/ /fishery product processing/ /handling/ /marketing/
$90730 24 months
-Universidad Austral de Chile, Valdivia, CL

84-0214 (AFNS)
Conch Management (Belize) - Phase II

The Queen conch, Strombus gigas, is an important marine product in Belize, extensively consumed for its delicate meat. In 1972, over 500 t were exported, mostly to the United States. Since then, production has sharply declined. During the first phase of this project, an intensive sampling and monitoring system of conch stock was established, enabling researchers to gather information on basic biological parameters (growth, feeding). The purpose of the second phase of work is to provide management measures for the preservation and recovery of conch stock, and to assess the potential of alternative species for diversification of fisheries production. Phase II will also expand attempts made in phase I to develop a shell craft cottage industry.

/shellfish/ /aquaculture/ /exploitability/ /fishery management/
$200000 36 months
-Belize. Ministry of Health, Housing and Cooperatives, Belmopan, BZ

84-0215 (AFNS)
Mariculture (Panama) - Phase II

Polyculture of fin-fish in combination with shrimp has been successfully demonstrated in the Philippines. In phase I of this project, researchers identified fish species that do not interact negatively with shrimp: Mugil curema (mullet) and Chanos chanos (milkfish). Phase II will continue evaluation of local fish species for polyculture with penaeid shrimp, with emphasis on Chanos chanos primarily and Mugil curema secondarily. Also researchers will improve the quality and commercial value of these species through the processing techniques of smoking and deboning.

/aquaculture/ /shrimps/ /fish/ /fishery product processing/
$302300 36 months
-Panama. Ministerio de Desarrollo Agropecuario, Panama, PA

84-0216 (HS)
Sexually Transmitted Diseases (Cuba)

For the last forty years, the standard treatment for gonorrhea has been Penicillin and its derivatives. In the last ten years, however, a new form of penicillin-resistant gonorrhea has made its appearance and spread rapidly around the world: penicillinase-producing Neisseria gonorrhea (PPNG). This project will determine the prevalence and incidence of the STD, especially gonorrhea (both PPNG and non-PPNG) in Cuba with a view to helping the Ministry of Health set up a comprehensive National STD Control Program.

/venereal diseases/ /disease control/ /diagnosis/ /antibiotics/
$182560 24 months
-Ministerio de Salud Publica, Habana, CU

84-0217 (IS)
Caribbean Agricultural Information System (CAGRIS)

Despite the advances made in the documentation of agricultural literature in the Caribbean, information concerning research activities continues to be difficult to obtain. The purpose of this project is to create an effective agricultural information system for the region. The project will enable the University of the West Indies (St. Augustine) to establish a regional coordinating unit for the Caribbean Agricultural Information System (CAGRIS). Project participants will build the necessary national infrastructures; establish a regional union list of serials in agriculture; develop a regional cooperative acquisition policy; provide training; and coordinate the services offered by the libraries and other documentation units specializing in agricultural information.

/information systems/ /agricultural research/ /information exchange/
/information services/
$380655 36 months
-University of the West Indies (UWI), St. Augustine, TT

84-0218 (AFNS)
Crop/Livestock Systems (Indonesia)

The Indonesian government wishes to encourage migration from Java to other less populated islands, and to increase food production. To support these goals, cropping systems (CS) research was initiated in 1971. CS research was instrumental in assisting 44 percent of transmigration farmers in Baturadja, South Sumatra, to adopt a recommended system of maize, upland rice, cassava, peanut and cowpea, thereby producing adequate food and a surplus for sale. Livestock development is a promising area for the extension of CS methodology because animals provide 20 percent of farm income. The purpose of this project is to improve crop-livestock production systems in upland, rainfed, transmigration areas.

/animal production/ /plant production/ /farming systems/ /on-farm research/
$424000 36 months
-Central Research Institute for Food Crops, Bogor, ID

84-0219 (AFNS)
Sorghum and Millets (Uganda) - Phase IV

Sorghum and millet are staple foods in semi-arid areas. The first two phases of this project supported an East African sorghum and millet breeding program. In phase III it became a Ugandan program under the Ministry of Regional Cooperation. Phase IV will strengthen Uganda's research program for the development of better sorghum and finger millet varieties and crop management practices. Specifically, researchers will assess farmers' production methods and adjust their research program accordingly; develop high yielding, blast-resistant finger millet varieties; and produce foundation seed of finger millet and sorghum varieties appropriate for the northern and eastern regions.

/sorghum/ /millet/ /plant breeding/ /genetic improvement/ /cultivation practices/ /on-farm research/
$382500 48 months
-Uganda. Ministry of Regional Cooperation, Kampala, UG

84-0220 (AFNS)
Farming Systems (Mali) - Phase III

Farming systems research has an important role to play in improving basic agricultural productivity in Mali, one of the poorest countries in the world. Phase I of this project collected information from several communities and trained staff in farming systems research methodology. In phase II, researcher and farmer-managed trials of a maize, manure and fertilizer package resulted in increased cereal production in the village of Sakoro. In phase III, the package will be tested in four additional villages. Researchers will identify constraints to increased crop and animal production; and design and conduct research and farmer-managed tests to reduce these constraints.

/farming systems/ /on-farm research/
$475500 24 months
-Mali. Ministère des Affaires étrangères et de la Coopération internationale, Bamako, ML

84-0221 (SS)
Policy Alternatives for the Mining Industry (Bolivia)

Bolivia is one of the poorest countries in Latin America -- poor both in terms of natural resources and per capita income. It depends heavily on exports of tin to earn foreign exchange and pay for essential imports. In order to improve the efficiency of the tin industry, researchers on this project will examine alternative management policies for the industry. Researchers will assess the effects of administrative reform on operating efficiency and costs of production. Specific policy options to be examined include increased worker participation in management, joint ownership by the public and private sectors, and administrative decentralization.

/mining/ /tin/ /export-oriented industry/ /industrial management/ /workers participation/
$59320 12 months
-Instituto de Formacion y Capacitacion (INFOCAP), Cochabamba, BO

84-0222 (SO SPA)
Village Polytechnics (Kenya)

Village Polytechnics training centres were pioneered in Kenya in the mid-1960s as a way to help young people leaving primary schools to acquire vocational training. They became very popular, and communities played a large role in establishing and governing them. However, over the years the respective responsibilities of non-governmental organizations (NGOs), communities and government have become unclear. The purpose of this project is to promote growth and stability of Village Polytechnics by clarifying their legal status and governance. Project participants will draft new legislation that will specify the administration and structure of Village Polytechnics.

/vocational schools/ /technical schools/ /vocational education/
/educational reforms/ /legislation/
$13340 6 months
-Action Aid, Nairobi, KE

84-0223 (SS)
Computer Related Indicators (Latin America)

Indicators that are constructed from basic data are essential to measure and evaluate the impact of public decisions. There have been no consistent attempts by governments, except in Brazil, to collect, process and analyze computer-related information technology informatics data in Latin America. The purpose of this project is to review the construction of indicators and propose ways in which the indicators and their collection can be improved. Project participants will compare the construction of indicators in Latin America with those of other nations; undertake two case studies, in order to test the revised indicators; and prepare a manual on information technology indicators.

/electronic data processing/ /information policy/ /computers/
$203500 24 months
-Intergovernmental Bureau for Informatics/Centro Regional para America Latina y el Caribe (IBI/CREALC), Mexico City, MX

84-0224 (AFNS)
Banana and Plantain Network (INIBAP) - Phase I

Bananas and plantains are widely grown in developing countries for domestic consumption, yet little research has been done on them. Banana and plantain producers and scientists worldwide have proposed, therefore, that the International Network for the Improvement of Bananas and Plantains (INIBAP) be formed to help support and coordinate research on these crops. The purpose of this project is to support the establishment of INIBAP. The specific objectives of the network are to initiate, encourage, support, conduct and coordinate research aimed at improving production of bananas and plantains; promote the collection and exchange of information relating to bananas and plantains; and support training for researchers and technicians from developing countries.

/bananas/ /plantains/ /organization of research/
$75000 6 months
-International Network for the Improvement of Bananas and Plantains (INIBAP), Montpellier, FR

84-0225 (FAD)
Training in Aquaculture

In Asia, many countries have extensive coastal swamps, tidal flats, coves, and inland waters suitable for aquaculture. If tapped fully, these resources could contribute significantly to the supply of low-cost, protein-rich food for the population. But to exploit the region's abundant resources, training for research into better aquaculture techniques is needed. The purpose of this project is to enable SEAFDEC-AQD (Southeast Asian Fisheries Development Center - Aquaculture Department) to offer short-term training courses in aquaculture. Each course will be designed for 20 participants, from both SEAFDEC member and non-member countries.

/aquaculture/ /training programmes/
$268260 24 months
-Southeast Asian Fisheries Development Center - Aquaculture Department (SEAFDEC-AQD), Metro Manila, PH

84-0226 (HS)
Xerophthalmia/Blindness (Zambia)

Zambia has a very high prevalence of blindness, especially in the Luapula Valley. A better understanding of the various factors contributing to blindness is required, however, before an appropriate intervention strategy can be implemented. The purpose of this project is to determine the prevalence, severity, and distribution of xerophthalmia and trachoma among children under 6 years of age, and identify associated nutritional, infectious, biochemical and environmental factors.

/blindness/ /epidemiology/ /vitamin deficiency/
$241990 24 months
-National Food and Nutrition Commission (NFNC), Lusaka, ZM

84-0227 (HS)
Primary Health Care in Tribal Communities (Philippines)

The Hanunuo Mangyan people inhabit the interior of Mindoro Island in the Central Philippines. They suffer from poor health and malnutrition due to lack of basic health care and environmental sanitation facilities. This project will determine the feasibility and effectiveness of a primary health care (PHC) delivery program featuring community involvement in the identification of health needs and resources and the training of village health workers to deliver PHC services. The project will provide national health authorities with important information on the establishment of PHC programs in isolated communities.

/primary health care/ /health services/ /health planning/ /community development/ /tribe/
$150460 30 months
-De La Salle University, Manila, PH

84-0228 (HS)
Diarrhea/Health Education (Philippines)

Diarrheal disease in children under five years of age is a leading cause of illness and death in the Philippines. Control programs are a high priority for the government but, much of the emphasis has been on management of the disease after its onset. The purpose of this project is to develop an effective primary health care educational intervention program designed to prevent diarrheal disease and promote maternal and child health. Researchers will collect information on mother's knowledge, attitudes and practices relevant to diarrheal disease; promote healthy practices in terms of breast feeding, weaning, and personal and domestic hygiene; and evaluate the effectiveness of the intervention program.

/diarrhea/ /health education/ /primary health care/ /maternal and child health/
$174775 36 months
-Research Institute for Tropical Medicine, Metro Manila, PH

84-0229 (IS)
Microcomputer-based System for Small Area Data Retrieval (REDATAM)

The most frequent requests made of statistical agencies are for census data for small geographic areas which can be used in planning new facilities. For the most part, the agencies are not able to meet these requests because the work required to retrieve and subsequently process the necessary data is excessive, and staff resources are limited. The purpose of this project is to permit the Latin American Demographic Centre (CELADE) in Santiago, Chile, to develop a microcomputer-based software package for the creation, storage and retrieval of small area census information. Project participants will produce computer program documentation and user manuals in both Spanish and English, and test the software package in centres in St. Lucia and Chile.

/population censuses/ /electronic data processing/ /computer programmes/ /microprocessors/
$141330 16 months
-Comisión Económica para América Latina (CEPAL), Santiago, CL

84-0230 (FAD)
Staff Development: Root Crop Research and Training

The Visayas State College of Agriculture (VISCA) is a regional school in the Philippines responsible for organizing and coordinating root crop research in the country. In 1976, VISCA established the Philippine Root Crop Research and Training Centre (PRCRTC). IDRC has supported two research projects on sweet potato with PRCRTC. The objectives of this project are to upgrade the education of members of PRCRTC's research staff possessing bachelor's degrees through master's and non-degree programs; and to increase the capacity of VISCA and its PRCRTC to do high-quality research in root crops.

/research workers/ /training/ /basic research/ /sweet potatoes/
$72000 48 months
-Visayas State College of Agriculture (VISCA), Pasay City, PH

84-0231 (AFNS)
Livestock Production (Burundi)

Burundi, a small landlocked country with a population of 4.5 million, is faced with increased soil degradation and insufficient foreign exchange to buy needed fertilizer and equipment. It has a large livestock population, but production systems are traditional, and productivity and consumption low. The purpose of this project is to develop improved livestock production systems for small-scale farms in the Kisozi and Mahwa regions which would permit increased milk and crop production. Researchers will introduce and test on-farm technologies for improved cattle, pastures, feeding, and disease control. Stall feeding will improve collection of manure for application on crop fields.

/animal production/ /livestock/ /feed production/ /forage crops/ /on-farm research/
$129300 36 months
-Burundi. Ministère de l'agriculture et de l'élevage, Bujumbura, BI

84-0232 (IS)
Documentation and Information Centre on Post-Harvest Activities (CDIAP)

Since independence, the government of the Ivory Coast has been concerned with attaining self-sufficiency in food production. But to achieve self-sufficiency more than an abundant supply of grain is required, namely efficient ways of preserving, storing and processing food products. A documentation centre on post-harvest activities will be set up in conjunction with the Ivory Coast Technological Research Centre in Abidjan to work on solutions to these problems. The personnel there, who are trained in information science, will collect documents on post-harvest technology and furnish them to researchers, technicians, and those concerned with disseminating scientific information. The centre will be equipped with audiovisual materials which will be used to instruct farmers on new post-harvest techniques. The centre will participate in the worldwide AGRIS system and will also publish a bulletin on post-harvest technology in Africa, as well as specialized bibliographies and directories.

/information services/ /post-harvest systems/
$172975 36 months
-Centre ivoirien de recherches technologiques (CIRT), Abidjan, CI

84-0233 (IS)
African Network of Administrative Information: ANAI Experimental

The development of administrative and managerial skills in Africa is hindered by the lack of adequate and reliable information about management and administration. The purpose of this project is to test the feasibility of an African Network of Administrative Information (ANAI). The collecting, processing and disseminating of information will involve up to 10 national centres representing a linguistic cross section. An experimental annotated index -- ANAI index will be published. The project results will be evaluated before a permanent system is implemented.

/information systems/ /development administration/ /pilot projects/
$209500 36 months
-Centre africain de formation et de recherches administratives pour le développement (CAFRAD), Tanger, MA

84-0234 (IS)
Regional Information Service on the Book for Latin America and the Caribbean

Since its inception in 1970, the Regional Centre for Book Promotion in Latin America and the Caribbean (CERLALC) has been collecting, organizing and disseminating information about book production and publishing in the region. The purpose of this project is to allow CERLALC to automate its information service to facilitate information retrieval, storage, analysis and dissemination. The development of an automated system will permit CERLALC to produce several printed products more effectively. These include directories of publishers, publishing specialists and suppliers, and a listing of all books published in the region.

/books/ /publishing/ /information services/ /systems design/ /electronic data processing/
$127200 24 months
-Centro Regional para el Fomento del Libro en America Latina y el Caribe (CERLALC), Bogota, CO

84-0235 (FAD)
International Foundation for Science

Since its inception in 1972, the International Foundation for Science (IFS) has channelled its support to Third World researchers in the biological sciences. It offers small grants to young scientists working in aquaculture, animal production, food crops, afforestation and mycorrhiza, fermentation and applied microbiology, natural products, and rural technology. This project will provide funds to enable IFS to support 40 young scientists involved in research in their own countries.

/research fellowships/ /biology/
$350000 12 months
-International Foundation for Science (IFS), Stockholm, SE

84-0236 (SS)
Comisión Nacional Informática (Argentina)

The purpose of this project is to build a capability in Argentina to comprehend the changes that are taking place in computer-related information technology (informatics). Researchers will review and analyze the policies and resources being used to promote informatics in India, Korea, Canada and Sweden; establish a product profile for the telecommunications industry; and describe and analyze the use of informatics in education, the public sector and employment in order to estimate its potential impact on Argentinian society.

/information policy/ /electronic data processing/
$169700 12 months
-Asociación Argentina para el Desarrollo Tecnológico (ADEST), Buenos Aires, AR

84-0238 (SS)
Institutional Support Grant (CISEA) - Phase II

CISEA (State and Administration Research Centre) was founded in 1977 to undertake research into social, political, and economic aspects of Argentina and Latin America. Institutional support funds provided in phase I of this project enabled CISEA to produce over forty research reports and publish eight books. This second phase of the project will support the continued institutional development of CISEA. Specifically, the grant will partially support: management and infrastructure of the research institution, research costs and salaries, scholarships for junior researchers, and library purchases and publications.

/social research/
$330000 36 months
-Centro de Investigaciones Sociales sobre el Estado y la Administracion (CISEA), Buenos Aires, AR

84-0239 (SS)
Training, Placement and Performance of Technical High School Teachers (Ethiopia)

In Ethiopia, government efforts to enhance indigenous, technological capacity are limited by a shortage of technicians. The country is relying heavily on formal training in the schools to meet this need. However, while expansion in vocational and technical education has been rapid, developments have not been as fast in the area of technical teacher training. The purpose of this project is to study the performance and use of technical teacher graduates and examine their training in relation to instruction in technical and vocational schools. Researchers will analyze both the training aspirations of vocational and technical teachers and Ethiopia's future training needs and requirements.

/teacher training/ /technical education/ /educational output/ /training programmes/
$41475 24 months
-Addis Ababa University, Addis Ababa, ET

84-0240 (FAD)
Research Fellowship: Dr. Wai-On Phoon

This project will provide funds for a research fellowship for Dr. Wai-On Phoon of the Department of Social Medicine and Public Health of the National University of Singapore. This fellowship will give Dr. Phoon, a leading scholar in the field of occupational health, the opportunity to spend three months at McMaster University, Hamilton, Ontario, to work and study in the Department of Occupational Health.

/research fellowships/ /occupations/ /health/
$19580 3 months
-Dr. Wai-On Phoon, Singapore, SG

84-0241 (FAD)
Research Fellowship: Dr. A.C. Espiritu

This project will provide funds for a Research Fellowship for Dr. A.C. Espiritu of the College of Law of the University of the Philippines. A leading Asian scholar in the field of Human Rights, Dr. Espiritu will spend a year at the Human Rights Research and Education Centre at the University of Ottawa. He will work on a research proposal entitled The International Bill of Human Rights and the Emerging Right to Development: A Comparative Study of Developmental Dynamics and Human Rights Practices in the First and Third Worlds.

/research fellowships/ /human rights/
$76900 12 months
-Dr. A.C. Espiritu, Metro Manila, PH

84-0242 (HS)
Epidemiology of Acute Diarrhea (Colombia)

Acute diarrheal disease in children continues to be one of the major public health problems of Third World countries. In Colombia, infectious intestinal diseases are the predominant cause of illness and the first cause of death in children under four years of age. The purpose of this project is to investigate the association between diarrheal disease and malnutrition, and whether such an association may be mediated by abnormalities in the immune system. Specifically, researchers will study the relationship between the nutritional status of children and the occurrence of acute diarrhea; and examine whether abnormalities in the immune response system conditioned by malnutrition affect the occurrence of diarrhea.

/diarrhea/ /malnutrition/ /immunology/ /epidemiology/
$70470 16 months
-Corporacion Cientifica de Médicos del Hospital Infantil Universitario, Bogota, CO

84-0243 (FAD)
Postgraduate Research Training Program - University of the South Pacific (USP)

The University of the South Pacific (USP) in Suva, Fiji, has a small but significant number of private undergraduate students, but virtually no private postgraduate students because of the high cost of continued study. This project will provide twelve postgraduate scholarships to those wishing to undertake research, primarily at the Masters level, in the areas of agriculture, marine resources, rural development, and food and nutrition, areas of particular need in the region.

/training programmes/ /research fellowships/ /nutrition research/ /agricultural research/
$266600 36 months
-University of the South Pacific (USP), Suva, FJ

84-0244 (AFNS)
Fish Processing (Indonesia) - Phase II

The bulk of the fish landed in Indonesia is preserved in dried, salted form by small village operations. Postharvest losses are extensive, however, and products are often of unacceptable quality. Efforts to improve the processing of salted, dried fish were made by researchers in phase I of this project. The purpose of phase II is to elaborate more controlled processing and storage methods for salted, dried fish and evaluate the economic feasibility of introducing such methods in village processing operations in Muncar, East Java. Researchers will compare the economics of mechanical drying systems with traditional village fish processing practices.

/fishery product processing/ /fish preservation/ /drying/ /technical aspects/
$193500 36 months
-Brawijaya University, Malang, ID

84-0245 (HS)
BLISS Waste Treatment (Philippines)

In the Philippines, the Ministry of Human Settlements has provided housing for low-income groups under the BLISS (Bagong Lipunan Sites and Services) housing program. Partially treated wastes from the housing complexes are being discharged into nearby creeks and rivers, posing a potentially serious health hazard to the residents. This project will develop a low-cost, easily maintained and locally acceptable wastewater treatment facility for use in the BLISS housing program. Project participants will design and construct an Aerated Facultative Pond Treatment facility. They will also prepare preliminary designs for an Anaerobic Upflow Filter System to be constructed and tested in a subsequent phase.

/waste treatment/ /waste waters/ /waste disposal/ /engineering design/
$62940 24 months
-National Environmental Protection Council (NEPC), Quezon City, PH

84-0246 (SS)
Family-school Relations (Argentina)

Argentina is in the process of re-democratizing its major social institutions, including the educational system. As part of this effort, parents, teachers, and school administrators are being encouraged to explore new forms of democratic interaction between the family and the school. The purpose of this project is to study relationships between the family and the school in low-income communities. Researchers will design, implement, and test a series of activities in the school and the community, oriented toward improving communication between the school and family. They will also prepare a manual for parents and teachers on how to organize and implement specific forms of collaboration.

/school-community relationships/ /social participation/ /decision making/
$95500 34 months
-Facultad Latinoamericana de Ciencias Sociales (FLACSO), Buenos Aires, AR

84-0247 (HS)
Sero-Immunity to Polio/DPT (Jamaica)

Jamaica has adopted a policy of immunizing all children against the major childhood infectious diseases (measles, diphtheria, pertussis, tetanus, tuberculosis, and poliomyelitis. Since 1980, attempts have been made to calculate immunization coverage, with limited success. This project will determine the immunological status of Jamaican children, with respect to polio and DPT (diphtheria, pertussis and tetanus). For each selected child, a questionnaire will be completed and a blood sample collected. Information obtained will be of assistance to health officials in planning their immunization programs.

/immunology/ /infectious diseases/ /children/ /immunization/
$77770 15 months
-Jamaica. Ministry of Health, Kingston, JM

84-0248 (SS)
Rural Industry (Burkina Faso)

Artisans and operators of small-scale rural industries represent an important sector of the economies of developing countries. The purpose of this project is to determine the potential for expansion of rural industry in Burkina Faso. Specifically, researchers will determine the potential for expansion of small-scale processing of shea nuts and peanuts and related products. The research team will carry out a survey of existing rural technologies used in the production of these goods; measure local and national demand; and assess the potential for increasing the number of small-scale production units in peanut and shea nut production.

/rural industry/ /agriproduct processing/ /feasibility studies/ /industrial potential/
$68160 18 months
-Centre d'études, de documentation, de recherches économique et sociale (CEDRES) de l'Université de Ouagadougou, Ouagadougou, BF

84-0249 (SS)
Technical Change and Regional Policy (Brazil)

Brazil is a country of extreme economic and social disparities. A federal agency, Superintendecia do Desenvolvimento do Nordeste (SUDENE) was created to plan and promote industrialization in the country's poorest region, the Northeast. The purpose of this project is to assess the impact of SUDENE's industrial assistance programs on technological modernization in SUDENE's industrial sector of the northeastern region. Researchers will review the process of technical change and modernization in the textile, metal fabricating and petrochemical sectors in the states of Pernambuco, Ceara and Bahia. They will also analyze the impact of modernization on industrial output, the labour market, and local resources.

/industrial development/
$62600 12 months
-Fundaçao de Ensino Superior de Pernambuco (FESP), Pernambuco, BR

84-0250 (SS)
Evaluation of Energy Use Patterns and Systems in Selected Regions in Guyana

It is difficult to predict Guyana's energy needs based on the small amount of information currently available on energy use patterns. The purpose of this project is to evaluate energy systems and patterns of usage in the East Coast Demerara region. Project participants will review existing literature on energy consumption and production; establish energy use patterns within the domestic, industrial and commercial sectors; evaluate alternative energy systems and fuels (e.g. biogas, woodgas, wind for water pumping and power, etc.); and make policy recommendations regarding energy conservation, and the formulation of an energy policy.

/energy consumption/ /power generation/ /power demand/ /power supply/ /renewable energy sources/
$42800 24 months
-University of Guyana, Georgetown, GY

84-0251 (SS)
Child Labour and the School in Rural Chile

Studies seeking to understand the causes of school dropout in developing countries show that many children leave school because they are needed at home, particularly in the rural areas. This project will examine the effects of child labour on school performance in rural Chile with reference to school attendance, desertion, repetition, and academic achievement. Information will be collected on the conditions under which children study and work and both the child's and the parents' attitudes toward rural schools and child labour.

/child labour/ /schooling/ /educational output/ /rural areas/
$67900 18 months
-Facultad Latinoamericana de Ciencias Sociales (FLACSO), Santiago, CL

84-0252 (SS)
Tax Reform (Colombia)

In 1974, the Colombian government instituted sweeping tax reforms -- with mixed results. The purpose of this project is to study the formulation, implementation and modification of the Colombian tax reform between 1974 and 1983 with a view to designing further tax reform. Researchers will assess the effects of the 1974 reform on income distribution, inflation and government revenue; examine administrative aspects of policy implementation; and examine the ways in which interest groups influenced the legislation.

/tax reforms/ /evaluation/ /administrative aspects/ /political aspects/
$62900 12 months
-Fundación para la Educación Superior y el Desarrollo (FEDESARROLLO), Bogota, CO

84-0253 (SS)
Industrial Policy (Peru)

In 1980, the government of Fernando Belaunde came to power in Peru and subsequently adopted a neo-liberal industrial policy. Import tariffs were reduced, the exchange rate was strictly pegged to the differential interest rate, subsidized credit for exports was abolished, and the rate of interest on public credit to industry was increased. The purpose of this project is to analyze the effects of these policies on the industrial sector between 1980 and 1984. Three industries will be studied in detail: textiles, shoes and automotive supplies. Researchers will study the process by which industrial policy was formulated; examine the mechanisms used by industries to respond to the changing policy environment and incentive systems; and make recommendations for a more selective and effective industrial policy.

/industrial policy/ /policy making/ /evaluation/
$88600 24 months
-Universidad del Pacifico, Lima, PE

84-0254 (HS)
Sanitation Systems (Bangladesh)

It is estimated that only 1 percent of the rural people in Bangladesh have access to any sanitary facilities. Government-sponsored projects have had limited success because of the lack of community involvement. The intent of this project is to develop, undertake and evaluate a community-based environment sanitation promotion program in a rural village. Some 200 water seal latrines and 10 tube wells equipped with handpumps will be constructed involving the community in all phases of the project. Photo essays will be prepared and environmental studies conducted at the commencement and the conclusion of the study.

/sanitation/ /health education/ /sanitation services/ /community development/ /community relations/
$53310 24 months
-Clean Village Research Centre, Dhaka, BD

84-0255 (FAD)
Post Graduate Hydrologic Education and Research

Hydrology is a science dealing with the properties, distribution, and circulation of water on the surface of the earth, in the soil and underlying rocks, and in the atmosphere. This project will enable IDRC to participate in an ongoing international, post-graduate training program in hydrology at Roorkee University, India. Each year, from 1985 up to 1987, IDRC will support four qualified scholars from institutions in developing countries where the Cooperative Program may wish to encourage projects in water management.

/hydrology/ /water management/ /research fellowships/
$64100 40 months
-University of Roorkee, Roorkee, IN

84-0256 (SS)
Forest Land Development Policy (Philippines)

Research on forest policy for development has been identified by the Philippine government as a national priority, to date policy makers have concerned themselves mainly with the commercial logging sector and there has been little recognition of the other uses and users of forest land resources. The purpose of this project is to evaluate costs and benefits of new and existing public policies and management schemes in the forestry sector. Researchers will examine social costs and benefits of management policies for natural and plantation forests operated by commercial enterprises; formulate more economically rational watershed management policies; and estimate population growth in the uplands and its implications for forest land use.

/forest management/ /forest resources/ /forest utilization/ /policy making/
$44800 24 months
-Philippine Institute of Development Studies, Metro Manila, PH

84-0257 (SO SPA)
Freedom of Association (Asia)

To associate freely with other people for a common purpose is internationally recognized as a basic human right. This right is essential to the hundreds of grassroots organizations in Asia, formed to give support to the rural and urban poor. This project will examine national legislation limiting freedom of association and its impact on grassroots organizations.

/freedom of association/ /non-governmental organizations/ /legislation/
$30800 12 months
-PROCESS, Metro Manila, PH

84-0258 (HS SPA)
Hydraulic Ram Pump (Uganda)

Providing an adequate domestic water supply for scattered rural populations is a major problem in many developing countries. Fuel and maintenance costs to operate conventional pumping systems are becoming prohibitive. As an alternative, the hydraulic ram pump (hydram) is a relatively simple technology that uses renewable energy, is durable, and has only two moving parts which can easily be maintained by local personnel. The purpose of this project is to assess the hydram potential in Uganda and develop a new generation of lightweight locally-made hydrams. Researchers will make an inventory of existing hydram installations; construct a demonstration/testing facility; and investigate the feasibility of local manufacture of hydrams.

/pumps/ /engineering design/ /testing/
$173420 24 months
-Uganda. Ministry of Lands, Minerals and Water Resources, Entebbe, UG

84-0259 (SS)
Industrial Restructuring (India) - Phase I

India's share of world exports has declined almost continuously since 1950. Experts believe India could do far better in terms of industrial expansion and export earnings. Researchers on this pilot project will design a program of research on the restructuring of the industrial sector to increase employment and export earnings. A major aim of the research will be to highlight the tradeoffs involved in choosing export promotion vs. import substitution and in supporting one set of industries vs. another. The research program will be considered for funding by IDRC at its June 1985 Executive Committee Meeting.

/research programmes/ /methodology/ /export promotion/ /industrial structure/ /industrial policy/
$66000 6 months
-Indian Council for Research on International Economic Relations (ICRIER), New Delhi, IN

84-0260 (AFNS)
Faba Beans Processing (Egypt)

Faba beans (vicia faba) are an important part of the staple diet of most Egyptians. They are a relatively cheap source of dietary protein. Because faba beans are a widely consumed staple in the country, any improvements in processing to improve nutritional quality are important. The purpose of this project is to document consumption and production patterns, nutritive value, and processing of four foods made from faba beans. Researchers will obtain information on product characteristics and demand; processor problems; costs; consumer problems; and processing recipes.

/faba beans/ /food consumption/ /food processing/ /food preparation/
$46000 9 months
-University of Alexandria. Department of Agricultural Industries, Alexandria, EG

84-0262 (COMM)
Artisanal Fisheries Videotapes (Chile)

The fishermen of Chile need technical training if the country's small-scale fisheries are to improve. The purpose of this project is to produce three instructional videotapes and evaluate their effectiveness in communicating research findings to fishermen in the Talcahuano region. The videotapes will be used to disseminate information on improved fishing and marketing techniques. The production and evaluation will serve as a pilot project to determine the feasibility of producing 24 more videotapes for use in training programs.

/technical information/ /audiovisual aids/ /fishermen/ /fishery development/ /fishing/
$12120 9 months
-Pontificia Universidad Catolica de Chile, Talcahuano, CL

84-0263 (IS)
Computerization at PDIN

The National Scientific Documentation Centre of Indonesia (PDIN - Pusat Dokumentasi Ilmiah Nasional) is one of the largest national documentation centres in the developing world. PDIN coordinates documentation and information activities at the national level in science, technology and the social sciences, and acts as Indonesia's focal point in regional and international information systems. This project will enable PDIN to establish, over the long term, an integrated, automated information system; and provide PDIN with technical supervision as well as further MINISIS-related training and a fellowship in computer science.

/information services/ /electronic data processing/ /MINISIS/ /scientific information/ /library automation/
$94340 24 months
-Pusat Dokumentasi Ilmiah Nasional (PDIN), Jakarta, ID

84-0264 (SS)
Socio-economic Consequences of Migration for Women in Sending Areas (Nigeria)

The exodus of young, able-bodied men from rural Nigeria to wage employment in urban and oil-producing areas has left the agricultural sector in a state of stagnation. In many places women have taken on the role of household head and manager of family-based agriculture. The purpose of this project is to measure and assess the impact of migration on agricultural production in two areas of Kwara State with emphasis on the position of women as heads of households and agricultural producers. Researchers will measure the volume and types of migration; and assess the consequences of migration in terms of the rural labour force, the role of women, and the contributions of urban migrants.

/agricultural production/ /internal migrations/ /economic implications/ /remittances/ /women/
$93800 21 months
-University of Ibadan. Department of Geography, Ibadan, NG

84-0265 (COMM)
Workshop on the Role of Radio in Science Popularization

Radio still reaches more people in Africa than television or newspapers. Now that African countries are investing more and more in scientific research, radio broadcasts can be a very effective way to inform people of research results. Many science programs, however, are produced abroad and then broadcast in Africa. Professional journalists and science writers in Africa with a general training need more experience in producing science news for radio. This project will allow two schools of journalism to conduct a workshop for 15 African radio professionals from ten different countries on the popularization of science. By the end of the training the participants will have produced eight 30-minute science documentaries. Once they return home, they will be better able to develop science programs to reach their local audiences.

/journalists/ /radio/ /scientific information/
$47460 6 months
-Association interinstitutionnelle pour la communication (AICOM), Dakar, SN

84-0266 (HS)
Contraceptive Development - ICCR (Global) - Phase V

The International Committee for Contraception Research (ICCR) has been involved in research aimed at the development of new contraceptive methods since its inception in 1971. Since 1973, IDRC has supported ICCR's work. The purpose of this phase is to provide a bridging grant to enable the ICCR to maintain its contraceptive development programs during 1985, and to allow it an opportunity to seek new donors.

/contraceptives/ /research and development/
$400000 12 months
-Population Council, New York, US

84-0268 (IS)
Coconut Information Centre - Phase II

The Coconut Information Centre (CIC) was established in 1979 to acquire, classify and disseminate scientific and technological information about the coconut. In phase I of the project efforts were made to capture and record coconut documentation and release information products. The purpose of phase II is to consolidate and augment CIC services in order to provide researchers with easier access to the current literature. Project participants will produce further issues of the series and serials begun in phase I; input some 3 000 references from the period 1965-1980 to the retrieval system; and microfiche all documents input to the retrieval system for deposit in centres in the Caribbean, West Africa, Southeast Asia and the Pacific.

/coconuts/ /information services/ /information dissemination/
$62460 36 months
-Coconut Research Board (CRB), Lunuwila, LK

84-0269 (AFNS)
Oyster Culture (Sudan) - Phase II

Mass mortalities of mother-of-pearl oysters ended culture operations on Sudan's Red Sea coast by 1971. Phase I of this project sought to develop culture techniques that would enhance the survival of oysters. It also generated considerable information on oyster growth and spat collection. Researchers in Phase II will work to re-establish commercial mother-of-pearl oyster culture along the Red Sea coast. Non-traditional culture sites will be investigated and research into the causes of mass mortalities will continue. New culture techniques will be tested and refined on demonstration farms and cost-benefit analyses made.

/oyster culture/
$310600 36 months
-Sudan. Ministry of Agriculture, Khartoum, SD

84-0271 (AFNS)
Lentil Mechanization (ICARDA)

The lentil (Lens Culinaris Med.) is an important crop in the Middle East and North Africa: the seed has a high protein content, the plant maintains soil fertility through nitrogen fixation, and the straw is a valuable animal feed. The major constraint to lentil production is the high cost of labour for harvesting. This project will identify, develop and test mechanized harvesting systems suitable for small- to medium-sized lentil producers in Syria, Jordan and Turkey. Researchers will field test and cost machinery and define agronomic requirements for the harvesting machinery.

/lentils/ /harvesting/ /agricultural mechanization/
$226900 36 months
-International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, SY

84-0272 (AFNS)
Rural Production Modules (Mexico)

Over 50 percent of Mexico's land is arid or semi-arid. Moreover, because of over-exploitation, and inappropriate management, natural vegetation has been depleted to the point where it cannot provide a minimum source of income for the rural population. The purpose of this project is to develop integrated systems to regenerate and increase local production of food, fuelwood, fodder, and minor forest products in the northern region. Researchers will plant selected species, monitor their adaptability, growth and yield, and evaluate cultural and harvesting practices for sustained production.

/rural development/ /resources management/ /agricultural production/ /cultivation practices/
$275600 36 months
-Instituto Nacional de Investigaciones Forestales (INIF), Mexico City, MX

84-0273 (AFNS)
Rattan (China)

Rattan is an important forest product in the southern provinces of the People's Republic of China. As a result of increased exploitation and decreased cultivation, local rattan collection has diminished rapidly. This project aims to lay the groundwork for development of rattan plantations in the four tropical provinces of South China. Project participants will conduct a taxonomic inventory; establish an arboretum and trial plantations for phenological and silvi-physiological studies; and determine the physical and mechanical properties of rattan.

/palms/ /manmade forests/ /silviculture/
$226600 36 months
-Chinese Academy of Forestry, Beijing, CN

84-0274 (HS)
Handpump Manufacture (Indonesia)

Several innovative handpumps have been developed to secure a safe supply of unpolluted water for rural communities in developing countries. However, the diffusion of this technology and its utilization is constrained by the lack of local producers, lack of local expertise in the maintenance of handpumps, and the inability of communities to purchase the pumps. The purpose of this project is to introduce this technology to villagers in rural areas of Indonesia. Specifically, researchers will install 40 IDRC-UM (University of Malaya) PVC (polyvinyl chloride) handpumps in selected communities; develop and test an appropriate credit-repayment scheme; provide training in the operation and maintenance of the handpumps; and monitor the technical performance of the handpumps.

/pumps/ /water supply/ /maintenance and repair/
$72800 18 months
-Yayasan Dian-Desa, Yogyakarta, ID

84-0275 (AFNS SPA)
Institutional Woodstoves (Kenya)

Wood is the major energy source for cooking and heating in over 5,000 Kenyan institutions. Fuelwood consumption could be reduced in these institutions by developing and introducing improved cookstoves and energy-efficient kitchens. The purpose of this project is to develop more efficient wood-burning, cooking and heating units for Kenya's public institutions. Researchers will design and build a prototype stove; appraise kitchen systems and develop design alternatives to increase their energy efficiency; and disseminate research results to government policymakers and institution administrators.

/stoves/ /fuelwood/ /energy consumption/ /engineering design/
$137550 24 months
-Kenya Energy Non-Governmental Organizations Association (KENGO), Nairobi, KE

84-0276 (SS)
Microcomputer Software for Research on Artisanal Fisheries (Chile)

Research in fisheries economics, like most applied research in the social and economic sciences, requires the use of computer programs for data analysis. To date, however, these programs have not been fully adapted for microcomputer use or for application to the special data requirements of the small-scale (artisanal) fisheries sector. The purpose of this project is to develop a series of user-friendly microcomputer software programs for application in artisanal fisheries research programs in Chile. The programs will permit statistical and mathematical analysis and will integrate biological, technological and socioeconomic research on artisanal fisheries.

/data analysis/ /fishery research/ /computer programmes/ /fishery economics/
$46475 6 months
-Universidad Catolica de Valparaiso, Valparaiso, CL

84-0277 (SS)
Action Research Network for Education and Development (Indonesia)

Action or participatory research calls for interaction between the researchers and those among whom the research is conducted. The Indonesian Action Research Network (JARI) was established to facilitate the examination of action research, to sponsor a number of case studies, to provide appropriate training support, and to disseminate related information. This project will enable JARI to provide technical assistance, training and administrative support for four case studies on community education in poor rural and urban areas. These studies concern community education in environmental management, education regarding the adverse effects of pesticide misuse, and "alternative" education programs for youth and school drop-outs.

/participatory research/ /case studies/ /non-formal education/ /community relations/
$160000 30 months
-Institute for Social and Economic Research, Education and Information , Jakarta, ID

84-0278 (HS)
Rural Psychiatry (India)

At this time, no formal psychiatric care is available to patients suffering from psychosis, epilepsy and mental retardation in the Kara district in India. The purpose of this project is to assess the effectiveness of the management of serious mental illnesses in the district by traditional healers and health practitioners. Researchers will determine where and from whom the severely mentally ill patients receive psychiatric care, if it is provided; and train village health workers in the diagnosis of serious mental illness.

/mental diseases/ /psychiatry/ /traditional medicine/ /auxiliary health workers/
$62630 24 months
-Tribhuvandas Foundation, Anand, IN

84-0279 (HS)
Paraquat Intoxication (Colombia)

The Colombian government is concerned at the growing use of the herbicide, Paraquat, in the country, as a growing body of knowledge now indicates that it is toxic to humans. The purpose of this project is to evaluate the health hazards posed by the unrestricted use of Paraquata in the agricultural region of Antioquia, with reference to population health profiles before and after the introduction of the herbicide. Researchers will also establish levels of exposure to Paraquat, by measuring air concentrations and the contamination of food stuffs, and determine the association between different exposure levels and impaired lung function.

/herbicides/ /environmental effects/ /public health/ /toxicity/ /occupational diseases/
$247090 16 months
-Fundacion para la Educacion Superior (FES), Cali, CO

84-0280 (HS)
Diarrheal Diseases Control Program (Global) - Phase III

In most developing countries acute diarrheal diseases continue to be a leading cause of death in infants and young children. Phases I and II of this project have supported the World Health Organization's global program for the control of diarrheal diseases (CDD). The objectives of CDD are to reduce the mortality and morbidity caused by acute diarrheal diseases and their associated ill-effects, particularly malnutrition, and promote the self-reliance of individual countries in the control of diarrheal diseases. Phase III will provide continued support for CDD and its activities.

/diarrhea/ /disease control/
$300000 24 months
-WORLD HEALTH ORGANIZATION (WHO), GENEVA, CH

84-0281 (SS)
Open University Tutorial Systems (Indonesia)

The Indonesian Open University, Jakarta, is providing tutorial services for nearly 60 000 students at 32 regional centres throughout the country. This project will investigate how these services have been organized and how they are currently operating at 12 of the centres. Researchers will describe various approaches to tutoring, official and unofficial, taking place in regional centres and determine the strength and weaknessses of each approach from the point of view of students and tutors. Also researchers will develop various models of tutoring which might be recommended to the regional centres.

/distance study/ /higher education/ /universities/ /educational output/
$55000 24 months
-Indonesian Open University, Jakarta, ID

84-0282 (SS)
Teaching Development Studies (Lesotho)

There has been made criticism of the formal, teacher-dominated environment in post-colonial African schools, but relatively few attempts to study classroom processes and alter traditional teaching patterns. In this project, researchers in Lesotho will monitor what happens when teachers try to alter traditional teaching-learning patterns. Specifically, researchers will assess current methods of teaching Development Studies, a new school subject, and assist teachers to introduce more effective teaching methods. The emphasis will be on pupil-centered discussion, problem-solving and practical involvement in rural development activities.

/teaching methods/ /educational innovations/
$11400 12 months
-National University of Lesotho, Maseru, LS

84-0283 (HS)
Rural Sanitation Research (Sierra Leone) - Phase II

In phase I of this project the Community Development Council (CDC), an indigenous non-governmental organization in Sierra Leone, demonstrated that communities can take responsibility for constructing and maintaining their own sanitary facilities, improving environmental conditions and reducing hazards to health. The purpose of this second phase of support is to replicate the strategies employed in Phase I, this time with respect to water supply and sanitation facilities. Also, researchers will evaluate the impact of these interventions on the health status of the population.

/sanitation/ /health education/ /water supply/ /community relations/
$386000 36 months
-Community Development Council, Bo, SL

84-0284 (SS)
Macroeconomic Analysis (Peru)

Since 1975 a succession of military and civilian governments has failed to stabilize the economy of Peru. This inability has led to shifts in economic behaviour, with important implications for the design of macroeconomic policies. The purpose of this project is to develop a macroeconomic model of the Peruvian economy. The intention of the model is to explain the economy's performance in recent years; assess the impact of actual and alternative policies; and study alternative theories of pricing, savings and investment behaviour. Researchers will develop and maintain a data base both for the model and for other economic research.

/macroeconomics/ /economic models/ /economic policy/ /economic theory/
$69400 18 months
-Universidad del Pacifico, Lima, PE

84-0285 (SS)
Savings, Investment and Financial Markets (Latin America)

Saving and investment behaviour and the performance of financial markets have a direct bearing on the management of Latin American economies. Since 1980, IDRC has financed research on various aspects of these issues. The purpose of this project is to link Centre-supported research in Latin America on savings, investment and financial markets so as to encourage more systematic collaboration in the areas of policy analysis, economic theory and applied research. This collaboration will take place through two workshops, short-term exchanges of scholars, and joint publication of research results.

/savings/ /investments/ /financial market/ /macroeconomics/ /applied research/ /organization of research/
$67000 18 months
-Centro de Estudios de Estado y Sociedad (CEDES), Buenos Aires, AR

84-0286 (AFNS)
Crop Intensification (Syria) - Phase III

IDRC has supported nearly eight years of research to develop a more productive and stable crop rotation for Syria's rainfed agriculture. Phase I of this project designed new improved crop rotations and phase II assessed their effects on yields and soil fertility. The purpose of phase III is to develop an improved, stable crop rotation for maximum wheat production in the two high-rainfall zones of the country. Specifically, researchers will continue winter and intensive crop rotation trials for two seasons; and evaluate 8 years of crop rotation data both agronomically and economically.

/crop rotation/ /wheat/ /crop yield/ /cultivation practices/
$176000 30 months
-Ministry of Agriculture and Agrarian Reform, Damascus, SY

84-0287 (IS)
Union Catalogue of Chinese Scientific and Technical Periodicals

China currently has no overall system of bibliographic control for scientific and technical information. A fundamental tool used in locating information is a union catalogue. The purpose of this project is to assist the Institute of Scientific and Technical Information of China (ISTIC) to prepare a union catalogue of Chinese scientific and technical periodicals held within the institutions belonging to the ISTIC system in China. To accomplish this, ISTIC will write the required computer software and procedures and will acquire appropriate equipment for processing Chinese character information. The resulting database will lay the groundwork for Chinese participation in the International Serials Data System (ISDS).

/catalogue/ /periodicals/ /electronic data processing/ /computer programmes/ /electronic equipment/
$88200 36 months
-Institute of Scientific and Technical Information of China (ISTIC), Beijing, CN

84-0288 (AFNS)
Pasture Improvement (Swaziland)

Swaziland's traditional livestock production system i.e. communal grazing, has resulted in result overstocking and overgrazing, deteriorating pastures, and severe soil erosion. This project will identify useful pasture species and develop more productive, less damaging management techniques adapted to the social realities of Swaziland's small-scale production systems. It is anticipated that the technologies will be adopted by commercial and small-scale dairy farmers.

/pastures/ /forage crops/ /grazing lands/ /grassland/
$150500 48 months
-Swaziland. Ministry of Agriculture and Cooperatives, Mbabane, SZ

84-0289 (SPA)
Defence and Development in Southeast Asia

Little research on the impact of defence expenditures on development has been undertaken in Southeast Asia. This project will permit research teams in Indonesia, Malaysia, the Philippines, Singapore and Thailand to examine the economic impact of arms purchases; the economic and social burden of maintaining national armed forces; and the growing phenomenon of defence industries in national industrial strategies. The intention is to increase awareness of the development implications of defence spending. Findings will be disseminated widely in the region.

/military expenditures/ /economic implications/ /defence/
$268960 36 months
-Institute of Southeast Asian Studies (ISEAS), Singapore, SG

84-0290 (SS)
Roles of the Elementary School Principal (Liberia)

Despite the central role principals play in the effective operation of elementary schools in Liberia, no research has yet been undertaken on their duties and responsibilities. The purpose of this project is to assess the extent to which elementary school principals perform the functions expected of them by the Ministry of Education and by the community. Researchers will establish what principals actually do in carrying out their various functions. They will also assess the extent to which principals' training prepares them for their work.

/primary education/ /educational administration/ /training programmes/ /leadership/
$31100 15 months
-University of Liberia, Monrovia, LR

84-0291 (SS SPA)
RETAIN: Rural Energy Technology Assessment and Innovation Network (Global)

The decline in renewable fuel supplies in rural areas has prompted a search for more efficient energy devices. International donor agencies have sponsored research on the improvement of wood burning stoves, windmills, biogas digesters, etc. A more concerted research effort is needed, however, to improve the understanding of rural energy use and demand. This project will support a research network to examine different rural energy supply options. Research teams from Argentina, China, Costa Rica and the Philippines will assess and compare the range of technological options for particular uses and identify the constraints to the diffusion of rural energy technologies.

/energy crisis/ /rural areas/ /power supply/ /energy policy/ /organization of research/
$528500 30 months
-International Development Research Centre (IDRC), Ottawa, Ont., CA
-Science Policy Research Unit, University of Sussex, Brighton, GB
-Instituto de Economia Energetica (IDEE), Buenos Aires, AR
-Institute for Techno-Economic and Energy System Analysis (ITEEA), Tsinghua University, Beijing, CN
-Centro de Investigaciones Sociales, Ambientales y Tecnologicas (CISAT), San Jose, CR
-Asian Institute of Management (AIM), Metro-Manila, PH

84-0292 (HS)
Anopheles Identification (Zimbabwe)

Malaria, an important cause of illness and death in Zimbabwe, is far from being controlled, partly due to difficulties in identifying the vectors involved in its transmission. In Africa, the most important malaria vectors belong to the Anopheles gambiae species complex. Anopheles quadriannulatus is allied to this Anopheles gambiae complex and apparently present in large numbers in Zimbabwe. Researchers on this project will establish a colony of Anopheles quadriannulatus for subsequent studies; and develop the electrophoresis method for distinguishing Anopheles quadriannulatus in the Anopheles gambiae complex.

/disease transmission/ /disease vectors/ /malaria/ /disease control/
$16615 12 months
-Zimbabwe. Ministry of Health, Harare, ZW

84-0293 (IS)
REMIN-REMIC: A Mangrove Information System for Asia and the Pacific

Countries in the Asia-Pacific region depend on the mangrove forest as a source of firewood, charcoal and timber and for protection against tidal waves and cyclones. This project will support the establishment of a regional information network to serve those involved in the utilization, development, management and conservation of mangrove resources. Specifically, the project will assist the consolidation of a Regional Mangrove Information Network (REMIN) and the establishment of a Regional Mangrove Information Centre (REMIC) for Asia and the Pacific. Outputs of the project will be a regional data base and library collection; a quarterly regional mangrove newsletter; a regional state-of-the-art report; and a bibliography of mangrove research, 1975-1984.

/forest trees/ /information network/ /information exchange/ /information services/
$352900 36 months
-Natural Resources Management Center (NRMC), Quezon City, PH

84-0295 (SS)
Assessment of Educational Reforms

In Jamaica, it is hypothesized, the middle-class benefited most from the expansion and reform of education over the past three decades. Policies meant to benefit other classes were only marginally successful. Researchers in this project will gather data from government and school records since 1952 in an attempt to show the extent to which specific educational reforms have benefited their target populations. Research results will be used by policymakers to plan educational reforms aimed at ensuring greater educational opportunity across social class and gender lines.

/educational reforms/ /social stratification/ /educational opportunities/
$54500 12 months
-Institute of Social and Economic Research (ISER), University of the West Indies (UWI), Kingston, JM

84-0296 (SS)
Community Adaptation and Migration (Peru)

Within the Andean regions, the 1970's and early 1980's were characterized by economic recession, widespread unemployment and migration of people from rural areas to urban centres. In these circumstances, the various regions have responded differently to economic stress. The purpose of this project is to undertake a joint research project on community adaptation to economic change in the Puno and Cuzco regions of Peru. Researchers will develop a socioeconomic and demographic profile of the two regions; conduct exploratory fieldwork in specific communities; and interview community leaders and regional and state representatives to obtain information on community cohesion, group membership and development activities.

/regional development/ /economic recession/ /population dynamics/
/community development/
$66800 12 months
-Centro Peruano de Estudios Sociales (CEPES), Lima, PE

84-0297 (COMM)
Science Popularization (Nepal)

The mass media can play an important role in increasing public awareness of how science and technology can help national development efforts. In Nepal, on-going efforts to promote the adoption of innovations have been hampered by traditional beliefs and conservative attitudes. The purpose of this project is to implement a pilot science popularization program that will be conducted in collaboration with the press and radio. The pilot program will help develop, within the Nepali mass media, a capacity to communicate the results of scientific research in an understandable way through local language radio broadcasts and science features written for local newspapers.

/scientific information/ /mass media/
$61830 26 months
-Royal Nepal Academy of Science and Technology (RONAST), Kathmandu, NP

84-0298 (IS)
Women in the Caribbean: Data Retrieval System

The purpose of this project is to establish an automated retrieval system based on the data collected as a result of a major 1982 study on women in the Caribbean. The original data, collected between 1979 and 1982, were used to prepare project reports and research papers, but it has not been fully analyzed, and are not in an easily accessible form. The major output of this project will be a data base containing information on the lives of the women surveyed in Barbados, Antigua and St. Vincent as part of the Women in the Caribbean Project. In addition, user manuals for the data base will be developed and produced.

/data retrieval/ /data bases/ /women/
$183800 24 months
-University of the West Indies (UWI), Bridgetown, BB

84-0299 (SS)
Outgrower Schemes (Ghana)

Small-scale farmers in Africa face serious problems in producing and marketing agricultural commodities. They cannot afford to purchase machinery for growing crops or for processing perishable goods, and they lack the bargaining power to negotiate fair prices for the crops they sell. One form of organization which could harness the productive potential of farmers is contract farming. In this system, a central processing or exporting unit purchases the harvests of independent farmers and provides them with credit, inputs, farm machinery rentals and technical advice. In this project, researchers will undertake an examination of three "outgrower schemes" which organize the production and marketing of palm oil in Ghana.

/agricultural production/ /labour contract/ /marketing/ /palm oil/
$74200 12 months
-University of Ghana. Department of Political Science, Legon, GH

84-0300 (SS)
Financial Markets (Argentina) - Phase II

In the late 1970s, Argentina undertook far-ranging reform of its financial system in the hope of using domestic financial resources more effectively. Phase I of this project revealed that the reform, which ended in 1982, did not achieve its objectives. Moreover, the changes led to a massive redistribution of wealth, a shakier financial system, and the growth of a large unsupervised financial market. The purpose of Phase II is to continue to analyze the country's financial market. Researchers will obtain information concerning the redistribution of financial assets; examine the size and characteristics of the unsupervised, informal part of the market; analyze its impact on macroeconomics stabilization policies; and consider different measures to reduce the economic instability caused by it.

/financial market/ /financial policy/ /stabilization/ /macroeconomics/
$87600 18 months
-Centro de Estudios de Estado y Sociedad (CEDES), Buenos Aires, AR

84-0301 (SS)
Teacher Training Evaluation (Jamaica)

In 1981, the government of Jamaica introduced a teacher training program designed to enhance the academic and professional and to competence of teachers and to make the curriculum more relevant. The objectives of this current study are to analyze the extent to which this new teacher training program has been effectively implemented and to identify areas where improvements are needed. Data gathered through this study will assist policymakers and teacher trainers in modifying the content and form of this program.

/teacher training/ /training programmes/ /evaluation/
$29700 30 months
-University of the West Indies (UWI). School of Education, Kingston, JM

84-0303 (SS)
Effects of Adult Literacy (Kenya)

Kenya is one of several countries in Eastern and Southern Africa that have embarked upon nationwide mass literacy programs. However, little or no systematic research has been undertaken as yet on the success of these efforts. They on this project will assess the extent to which the adult literacy program affects the lives of the participants, in terms of visible changes in their material wealth, general living conditions and well-being. They will also assess how well participants in the program learn what they are supposed to, and to what extent they actually use their new skill in their daily lives.

/literacy/ /adult education/ /evaluation/
$59400 24 months
-Kenya. Ministry of Culture and Social Services, Nairobi, KE

84-0304 (IS)
Debt Recording and Management System (Sri Lanka)

The increase in external debt in many developing countries has led to a need for better methods of recording, managing and analyzing information related to a country's overall borrowings. With the assistance of IDRC, the Commonwealth Secretariat has developed a system and methodology for capturing, tracking and analyzing small- and medium-sized debts in the private and public sectors. The purpose of this project is to test and implement in Sri Lanka the Debt Recording and Management System developed by the Commonwealth Secretariat (CS-DRMS software package). Using the CS-DRMS package, a loan and grant inventory will be created and data will be analyzed.

/data recording/ /external debt/ /computer programmes/
$83300 24 months
-Sri Lanka. Department of External Resources, Colombo, LK

84-0306 (AFNS)
Bamboo/Rattan Network (Asia)

Bamboo and rattan provide regular income to many poor rural communities in Asia. Since 1981, IDRC has provided support to several institutions in the region for applied research on bamboo and rattan, but there is a need for better coordination of research activities. This project will provide funds for a part-time coordinator to consolidate and assist a network of 10 IDRC-supported bamboo and rattan projects. It is expected that the network coordinator will strengthen the technical quality of research and encourage information sharing and the setting of research priorities among participating scientists.

/bamboo/ /palms/ /organization of research/
$47000 12 months
-International Development Research Centre (IDRC), Singapore, SG

84-0307 (SS)
Skill Education and Employment (Indonesia)

Sweeping educational reforms in 1975 and 1984 highlighted the importance placed on skills training by the Indonesian government. Given the resources being invested in skill education by government and non-government sources and the continuing expansion of skill education, evaluation studies are badly needed. Researchers on this project will assess and describe the type and quality of skill education in various types of secondary schools and programs in Central Java. They will also assess and describe local employment, and conduct tracer studies of graduates to determine the role of skill education in finding work.

/vocational training/ /employment opportunities/ /transition from school to work/
$44000 12 months
-Satya Wacana Christian University, Salatiga, ID

84-0308 (FAD)
Research Fellowship: Dr. Clive Thomas

This project will provide funds for a research fellowship for Dr. Clive Thomas of the Institute of Development Studies at the University of Guyana. This fellowship will enable Dr. Thomas to spend six months at the Centre for Research on Latin America and the Caribbean (CERLAC) at York University to complete the research and writing of a book on development patterns and policies in the Caribbean since World War II.

/research fellowships/ /economic and social development/ /development policy/
$28450 6 months
-Thomas, Dr. Clive, Georgetown, GY

84-0309 (AFNS)
Economics of Root Crop Processing (Philippines)

In the Philippines, the processing of root crops has traditionally been seasonal because of inadequate storage technology for freshly harvested root crops. With the recent introduction of a simple technology (storage trench) for root crop storage, the potential for year-round processing has increased. The purpose of this project is to evaluate traditional processing methods and their products, and identify research priorities for improved processing.

/root crops/ /agriproduct processing/
$5100 7 months
-VISCA Foundation for Agricultural and Rural Development (VIFARD), Baybay, PH

84-0311 (AFNS)
Rice Milling (India)

Paddy milling is one of the largest agroindustries in India but wide variations exist in the level of technology used and the yield and quality of the product. Moreover, despite serious shortages of edible oil, the potential of rice bran to partially meet the demand has not been exploited. This project aims to identify constraints to the implementation of appropriate improvements in the rice milling industry and make recommendations regarding the utilization of rice bran for edible oil production. It is expected that the results will be used by the Government of India in its rice mill modernization program.

/grain processing/ /milling industry/ /rice/ /edible oils/ /agricultural machinery/
$54400 18 months
-National Productivity Council (NPC), New Delhi, IN

84-0312 (AFNS)
Improved Dehulling Systems (Botswana)

Sorghum is the staple and preferred food in Botswana. However home processing of the grain, traditionally done by hand with mortar and pestle, is time consuming. Research to adapt and develop dehulling machinery was begun in 1975. As a result, there are now 21 small-scale mills based on built-in-Botswana dehullers in successful operation throughout the country. As these enterprises have matured, further adaptations have been made and various operating problems have come to light. This project will document these adaptations and problems, assess their implications for new installations and test several refinements to current mill design.

/milling industry/ /sorghum/ /grain processing/ /agricultural machinery/
/engineering design/ /testing
$13300 24 months
-Rural Industries Promotions (Botswana), Gaborone, BW

84-0313 (SS)
Terms of Trade of Rural Communities in Sri Lanka

The process of modernization in Sri Lanka has been felt most dramatically in the villages, especially among small padi farmers. One of the most profound changes has been to break the economic isolation of these villages and make them more dependent on outside markets. The government has become increasingly concerned about the consequences for rural purchasing power brought about by this change. The purpose of this project is to provide information to policymakers on changes in incomes and purchasing power in the rural sector. The project will result in the construction of a specific methodology, a terms of trade matrix, for studying fluctuations in purchasing power. The trade matrix will be applied to 12 study villages in different regions of the country.

/income/ /purchasing power/ /rural communities/ /applied research/
/methodology/
$72600 36 months
-Marga Institute, Colombo, LK

84-0314 (SS)
Off-Campus Program Student Characteristics (Malaysia)

Since 1971 the Universiti Sains Malaysia of Penang has operated an Off-Campus Program for mature learners (over age 23). This project will measure the personality, sociological and learning style characteristics of a sample of students enrolled in the Program, and their perceptions regarding the value of this Program. The resulting student profiles will then be related to academic performance in order to assess the extent to which the program is relevant to student learning needs. Project results will also provide program administrators with information useful for student selection and placement.

/distance study/ /college students/ /attitudes/ /educational output/
$55000 24 months
-Universiti Sains Malaysia, Penang, MY

84-0315 (AFNS)
Grain Dehulling (Uganda)

In drier areas of Uganda, the staple food is a stiff porridge made from dried cassava and cereals such as sorghum, millet and maize. Mechanical milling of the cereals is quite common, but dehulling is a tedious and time-consuming task, done at home, before the grains are taken to be milled. The purpose of this project is to assess the potential for introducing grain dehulling machinery in the country. Researchers will evaluate the technical performance, economic viability and acceptability of the RIIC/PRL dehuller in one rural location; manufacture and test one dehuller; and determine the potential for future development and dissemination of dehullers in the country.

/grain processing/ /agricultural machinery/ /testing/
$81200 24 months
-Uganda. Ministry of Planning and Economic Development, Kampala, UG

84-0316 (AFNS)
Economics of Bean Production (Brazil)

The state of Sao Paulo is a major bean-growing area in Brazil. Since 1982, however, bean production has decreased by about 28 percent, forcing the state to import beans from other Brazilian regions. The purpose of this project is to determine the reasons for the reduction of bean production and, based on this information, develop a program to increase both productivity and the area under cultivation in beans. Researchers will conduct on-farm trials of cultivation practices; and classify farming systems.

/beans/ /production increase/ /on-farm research/ /farming systems/ /classification/
$74000 18 months
-Secretaria de Agricultura e Abastecimento, Sao Paulo, BR

84-0317 (SS)
Irrigation, Development and Demographic Change (India)

It is widely acknowledged that irrigation leads to substantial changes in agricultural practices, with important economic, social and demographic implications. This project will study migration and settlement, and their consequences, in the Tungabhadra irrigation area in India. Researchers will examine the factors responsible for incoming migration, both permanent and seasonal; develop a demographic profile of the area; analyze the changing distribution of settlements and land use; and study the social and economic links between the origin and destination of migrant workers.

/irrigation/ /agricultural areas/ /economic implications/ /internal migrations/
$84200 24 months
-University of Mysore, Mysore, IN

84-0318 (SS)
Milk Markets (Sri Lanka)

The increased costs of importing milk and milk products has led the Sri Lankan government to adopt various programs and policies designed to increase domestic production and consumption of milk. This project will analyze the cost and effectiveness of policies and programs aimed at increasing domestic milk supply and encouraging consumption of milk and milk products by the poor and under-nourished. Researchers will determine the factors affecting the production and consumption of milk and milk products; and analyze the impact of relevant past, present and possible future government policies in terms of benefits and costs to consumers, producers and society as a whole.

/milk/ /dairy products/ /supply and demand/ /food consumption/ /models/
$23800 24 months
-University of Peradeniya, Peradeniya, LK

84-0319 (IS)
Creole Discourse and Social Development - A Preliminary Study

Creole, in its many varied forms, is the language of everyday life for many people in the Caribbean. It is believed that a better understanding and development of the Creole languages would enhance the socioeconomic development of the region. The purpose of this project is to study institutions, public agencies, official policies and common practices related to the use of Creole. The project will generate information and a bibliography that will help determine the areas in which a minimum of new resources (eg. handbooks of terminology, inter-island glossaries, annotated collections of folktales, dramas and novels) would encourage the use of Creole.

/vernacular languages/ /linguistics/
$78800 12 months
-Comisión Económica para América Latina (CEPAL), Santiago, CL

84-0320 (SS)
Agrarian Structure and Agricultural Policy in Paraiba (Brazil)

The states which make up Brazil's Northeast are without question some of the poorest in the world. The development of viable small farming systems in the region has been constrained by the lack of appropriate policies and inconsistency in the application of rural development programs. The purpose of this project is to assess the impact of agricultural policies on the rural economy of the state of Paraiba. Specifically, researchers will examine the role and changing nature of small-holder cotton production and sisal production; the impact of the expansion of sugar cane production on agrarian structure and crop choice; costs and benefits of federally sponsored reforestation schemes; and the socioeconomic impact of the expansion of pineapple production and processing.

/agricultural production/ /agricultural policy/ /agrarian structure/
$83310 24 months
-Universidade Federal da Paraiba, Campina Grande, BR

84-0321 (AFNS)
Mini-Dehullers (The Gambia)

The development of a suitable grain dehuller could considerably reduce the time and effort spent in food preparation by women in the Gambia. A mini-dehuller has been developed which is suitable for village level application. The purpose of this project is to design and build a modified version of the mini-dehuller using locally available materials and labour. The suitability of the machine for the dehulling of millet, sorghum, and sesame seeds will be evaluated at both the laboratory and village levels. Local artisans and mechanics will be trained to operate, maintain and manage the dehuller.

/grain processing/ /agricultural machinery/ /engineering design/ /testing/
$91100   30 months
-Catholic Relief Services (CRS), Banjul, GM

84-0322 (IS)
REPIDISCA (Peru)

The government of Peru realizes that if it is to provide water and sanitation services, it has to have better control of the water and sanitation information that is currently being produced in the country. The purpose of this project is to establish a National Information Network on Water Supply and Sanitation. The existing information centre at the Servicio Nacinal de Abastecimiento de Agua Potable y Alcantarillado (SENAPA) will act as the coordinating centre of the national network and as national focal point for participation in the Latin American Information and Documentation System on Sanitary Engineering and Environmental Sciences (REPIDISCA). The centre's general reference collection will be strengthened and a document delivery system based on microfiche will be established.

/water supply/ /sanitation/ /information services/
$59800   36 months
-Servicio Nacional de Abastecimiento de Agua Potable y Alcantarillado (SENAPA), Lima, PE

84-0323 (IS)
Interwater Thesaurus

Aside from the Latin American region, appropriate tools for processing information on community water supply and sanitation do not exist in the developing world. One of the most basic tools is a structured list of keywords - i.e. a thesaurus - used for the purpose of indexing and classifying documents for easy retrieval. The purpose of this project is to enable the International Reference Centre for Community Water Supply and Sanitation, within the framework of the Programme on Exchange and Transfer of Information (POETRI), to produce a common multilingual thesaurus in the field of rural water supply and sanitation. A consultant will be recruited to compile the thesaurus and edit its final draft version.

/thesaurus/ /water supply/ /sanitation/ /rural/
$92800   12 months
-International Reference Centre for Community Water Supply and Sanitation (IRC), The Hague, NL

84-0324 (IS)
Means of Information for Rural Development (Cameroon)

Even the people of rural Africa living in traditional subsistence economies are affected by national development policies and the economic and technological changes around them. The role of rural development workers is to help rural inhabitants understand these changes and use them to their advantage, as other segments of the population have done. This project aims to improve the dissemination of technological information to peasants in Cameroon by training young development workers in radio and audiovisual techniques.

/information dissemination/ /rural development/
$95840   24 months
-Institut africain pour le développement économique et social (INADES-Formation), Yaoundé, CM

84-0325 (SS)
Sedentation of Nomads (Mali)

The already serious climatic and ecological situation in the Sahel is deteriorating. Nomads who lost their livestock during droughts have been forced to settle, and those who still have animals must go far in search of pasture lands. In Mali, the Touareg nomads are settling along the Niger River or near lakes close by, but little information is available on the social and economic impact of this shift in population. This project will collect demographic data as well as information on the kind of agriculture that is being practiced by nomads who have settled. The research results will be provided to the government to be used in the next five-year agricultural plan.

/nomads/ /agriculture/ /cultivation practices/ /demographic analysis/ /habitat/
$78500   21 months
-Office malien du bétail et de la viande (OMBEVI), Bamako, ML

84-0326 (SS)
Common Law and the Congolese Family (Congo)

The Congo is composed of a variety of traditional societies, some organized according to matrilineal structures, others according to patrilineal ones. Traditional ways persist in the face of social and economic changes, but not without conflicts. Some of these are manifested in the realm of family law over issues of succession rights, inheritance, marriage and divorce. This project will examine traditional customs among families and the contradictions found in an urban environment due to social and economic conditions there. The project will contribute to the formulation of an equitable family code valid for all societies found in the Congo. It will also serve as a training ground for young Congolese social scientists.

/family law/ /social change/ /traditional culture/
$44200   21 months
-Direction générale de la recherche scientifique et technique, Brazzaville, CG

84-0327 (SS)
Urban Self-Employed Workers (Bolivia)

In Bolivia the expansion of a self-employed family sector has been particularly rapid since 1975, but information on the number of people involved and their role in the national economy is scarce. The purpose of this project is to study urban self-employed workers, their small-scale enterprises and their families' living conditions. Researchers will determine income and employment levels of self-employed workers; describe how self-employment activities are organized and their relationship to the formal employment sector; and identify those self-employment activities which could be promoted to expand employment and income.

/self-employed/ /economic behaviour/ /informal sector/
$97000 24 months
-Centro de Informacion y Documentacion para el Desarrollo Regional (CIDRE), Cochabamba, BO

84-0328 (SS AFNS)
Smallholder Livestock Development (Thailand)

Livestock production in Thailand is not keeping up with the increased demand for meat. The purpose of this project is to demonstrate that backyard cattle fattening enterprises can supplement farm income. Researchers will conduct trials on experimental stations to compare the performance of crossbred cattle with native cattle, determine optimum feeding time and formulate suitable rations. On-farm trials will then be conducted to evaluate promising rations and breeds, farmer acceptance of fattening cattle; and costs and returns at the farm level.

/cattle production/ /small enterprises/ /farmers/ /income/ /on-farm research/
$76700 36 months
-Kasetsart University Foundation, Bangkok, TH

84-0330 (SO SPA)
Consumers' Law (Malaysia) - Phase II

Consumers in developing countries are confronted with more harmful products and less acceptable levels of service than consumers in industrialized countries. The creation of laws to control abuses in the marketplace is essential if consumers are to be protected. Phase I of this project analyzed consumer law in Malaysia and propose legal reform in various areas. Phase II will continue this work. Specifically, the project participants will produce memoranda to government on the legal aspects of consumer problems and will extend information on consumer law problems to the practising bar, law teachers, and the general public.

/consumer protection/ /legislation/ /consumers/ /legal protection/ /consumer goods/
$70860 12 months
-Consumers' Association of Penang, Pulau Pinang, MY

84-0331 (CGT SPA)
FAMESA - Development of Training Manuals

Improved management of research projects and institutions is a necessary condition for the establishment of a sound scientific base in Africa. FAMESA (Financial and Administrative Management of Research Institutions in Eastern and Southern Africa) is intended to provide a mechanism through which national research systems in the region can acquire research management skills. The purpose of this project is to enable FAMESA to develop and adapt training materials (management manuals) for a course on Facilities, Materials and Inventory Management. FAMESA will distribute the management manual to research institutes and provide consultancy services.

/research and development/ /management development/ /manual/
$86000 12 months
-International Centre for Insect Physiology and Ecology (ICIPE), Nairobi, KE

84-0332 (SS)
Agro-Industry Studies (West Bank)

Farmers of the West Bank and Gaza have succeeded in increasing their productivity in terms of land and labour, but now, their markets are shrinking. The problem is all the more serious since, in the absence of storage and processing facilities, all produce is marketed fresh for immediate sale to consumers. A partial solution to this problem seems to be the development of cold storage and processing industries for agricultural produce. This project will carry out up to six economic feasibility studies of selected agro-industries in order to identify those that would be profitable. In addition to providing much of the information needed by potential investors, the studies will explore the social and economic effects of such industries.

/agroindustry/
$95500 24 months
-Rural Research Centre, Nablus, West Bank, IL

84-0333 (HS)
Onchocerciasis (Sierra Leone)

Onchocerciasis or River Blindness, is a disease causing much illness, hardship and economic loss in many regions of West Africa including Sierra Leone. The disease, however, has not been fully studied in that country nor have attempts been made towards a control program. The purpose of this project is to obtain essential epidemiological information to facilitate the control of Onchocerciasis. Researchers will examine the pattern of the disease in a designated study area and investigate the characteristics related to the insect vector and the parasite. Information will be collected on the prevalence, incidence and intensity of the infection; and the risk of the transmission of the infection in the study area.

/onchocerciasis/ /epidemiology/
$90185 24 months
-University of Sierra Leone, Freetown, SL

84-0334 (COMM)
Science Writing Training (Philippines)

The mass media can play an important role in increasing public awareness of how science and technology can help national development efforts. The Philippines News Agency (PNA) is committed to reviving its science features service as a first step toward stimulating more intensive coverage of science, and research and development activities, within the country. This project will allow PNA to conduct a practical 14-day training program for 20 Filipino journalists in interpreting and writing about science and technology issues and research and development activities, for national and local newspapers and for PNA.

/training programmes/ /writing/ /scientific information/ /press/
$16523 7 months
-Philippines News Agency (PNA), Manila, PH

84-0335 (SS)
Artisanal Fisheries (Kenya)

In Kenya, artisanal (small-scale) fishing has become an attractive means of self-employment. The purpose of this project is to discover why artisanal fishing is becoming so popular and the effects of this trend on the income of fishermen. Specifically, researchers will determine the socioeconomic status of artisanal fishermen and fish traders; examine the employment potential of artisanal fishing for recent school leavers; uncover the factors which contribute to the success or failure of artisanal fishermen and fishing organizations; and describe the channels for marketing freshwater fish.

/fishing/ /small enterprises/ /freshwater fish/ /fishermen/ /income/
/fishery development/
$37150 26 months
-University of Nairobi, Nairobi, KE

84-0336 (HS)
Dracunculosis (Togo)

In Togo, especially in the Sio and Yoto coastal districts, nearly half the population is affected every year by the dracunculosis or Guinea worm. The disease affects the active adult population primarily and has drastic social and economic consequences. This project will determine the prevalence and incidence of the disease in five communities through an epidemiological survey, as well as one on the entomology of the disease vectors. Since the disease is contracted by drinking contaminated water, a sociological study will be carried out on the practices surrounding the consumption of drinking water and the knowledge of how diseases are transmitted.

/parasitic diseases/ /epidemiology/ /drinking water/ /disease vectors/
$77405 36 months
-Université du Bénin, Lomé, TG

84-0337 (SS)
Occupational Benefits of Open University Education (Thailand)

Open universities have emerged in several countries in South and Southeast Asia in response to the growing public demand for higher education. Sukhothai Thammathirat Open University (STOU) was established in 1978 and admitted its first students two years later. This project will evaluate the extent to which STOU is achieving its objective of enhancing the working opportunities of its graduates. Data collected from a 25 percent sample of the first graduates will be analyzed to determine whether and how their job performance, chance of promotion and job mobility have improved following completion of their degree or certificate programs. Results will assist the STOU in determining where changes in program content and methodology are needed.

/distance study/ /universities/ /higher education/ /occupational qualification/ /educational output/
$59900   18 months
-Sukhothai Thammathirat Open University. School of Educational Studies, Bangkok, TH

84-0339 (HS)
Intestinal Parasitoses (Togo)

Parasitic diseases are a major health problem in Togo, especially among rural children between the ages of 6 and 14. This project will determine the extent of intestinal parasitosis, particularly hookworms, in three rural and semi-urban communities in Togo. The researchers will gain experience in applied field research as they make assessments of such health problems as anemia, and analyze their causes.

/parasitic diseases/ /children/ /epidemiology/
$23315   9 months
-Togo. Ministère de la santé publique, des affaires sociales et de la promotion féminine, Lomé,

84-0341 (SS)
Evaluation of Field-Based Teacher Training (Pakistan)

Though various educational reforms and innovations have been implemented in Pakistan since 1975, few have been carefully evaluated. This project will examine the effectiveness of an innovative, field-based teacher training program organized by the local Ismaili Islamic community in the Northern region. The program has established a low-cost, in-service training system which provides untrained teachers with new skills, better teaching aids, and continuing professional support. The evaluation will assess whether the field-based program is able to improve the quality of teaching and how it might be further improved.

/teacher training/ /training programmes/ /evaluation/ /quality of education/
$41300   13 months
-Aga Khan Foundation, Geneva, CH

84-0342 (AFNS)
Vegetable Marketing (Thailand)

The government of Thailand continues to support a major program of research and development aimed at increasing the range of economically viable crops available to northern farmers. The purpose of this project is to evaluate market opportunities and constraints for fresh and processed vegetables from the region. Researchers will also assess current vegetable processing methods and suggest areas in which technical improvements could be made.

/vegetables/ /agricultural market/ /market studies/ /food processing/
$9800   6 months
-Chiang Mai University, Chiang Mai, TH

84-0343 (SS)
Technical Change and Labour Utilization (Latin America) - Phase I

New technology, particularly the introduction of micro-electronic based technologies, is revolutionizing the way that goods are produced and therefore the skills required for machine control and maintenance. This project will explore the social and economic impact of technical change on the labour force and in particular the way that men and women work in association with the new technology. This first phase of the project will permit researchers to review the methods and comparisons required for a possible three nation study on Technical Change and Labour Utilization. The countries likely to be involved in the larger study include Argentina, Colombia and Brazil.

/technological change/ /economic implications/ /manufacturing/ /manpower/ /manpower needs/
$48000 6 months
-International Development Research Centre (IDRC), Ottawa, Ontario, CA

84-0344 (AFNS)
Marine Fish Disease (Malaysia)

Culture of the marine fish species grouper (Epinephelus salmordes) and seabass (Lates calcarifer) is increasing rapidly in Malaysia. Repeated disease outbreaks, however, have caused high financial losses and information on fish diseases is inadequate to improve their prevention or control or both. The purpose of this project is to examine diseases in the grouper and sea bass. Data on the prevalence of major bacterial and parasitic agents will be obtained and their seasonal and geographic incidence identified.

/fish/ /animal diseases/ /aquaculture/ /epidemiology/
$64000 24 months
-Universiti Sains Malaysia, Penang, MY

84-0345 (SS)
Primary School Opportunity Costs (Bangladesh)

It is now widely recognized that children of poor families in both rural and urban areas have to work in order to help themselves and their families make a living. This project will estimate the cost of attending school for out-of-school primary-age children in regions of Bangladesh where non-participation and dropout rates are particularly high. Estimates of the income that would be foregone if these children went to school will be calculated for those working in both the formal and informal sectors and broken down by region, sex, age, and rural/urban residence.

/children/ /manpower/ /schooling/ /economic implications/
$42500 18 months
-University of Dhaka, Dhaka, BD

84-0346 (IS)
Famine Prediction System: A Case Study

Famine prediction currently relies upon crop forecasting and food supply accounting techniques, which often fail to predict crises. Pioneer work over the last decade has led to a widely accepted notion of abnormal market behaviour as being both a contribution to, and an indicator of famine conditions. The purpose of this project is to field test in Sudan a methodology of famine prediction using market and household behaviour, and other socioeconomic indicators. Project participants will collect information in the field from refugees on changes in market prices over the period before, during and following a food crisis.

/famine/ /social indicators/ /economic indicators/ /emergency relief/
$34300 12 months
-London School of Hygiene and Tropical Medicine, London, England, GB

84-0347 (SS)
NGOs and Shelter Provision (Global)

Non-government organizations (NGOs) in the developing countries play a highly significant role in shelter construction and maintenance. This project will undertake five case studies in the developing world in order to document how selected NGOs have solved various problems associated with housing construction and maintenance. It will also stimulate discussion about the type and level of support that NGOs need from national governments and international agencies to increase their effectiveness and impact.

/non-governmental organizations/ /housing/ /low income/ /case studies/
$65600 12 months
-Habitat International Council, The Hague, NL

84-0348 (SS)
Energy Planning and Rural Energy Studies (India)

The government of India places high priority on the development of energy supply sources. This project will support a program of research on energy planning, the development of newly discovered natural gas resources and issues in energy use in rural areas. Within the scope of the project, researchers will examine the use of renewable energy technologies; study the smoke emission characteristics of traditional and improved wood stoves; and examine the current energy consumption pattern in brick making and determine the scope for technological change to improve energy efficiency.

/energy policy/ /energy sources/ /energy utilization/ /energy economics/ /models/
$90200 18 months
-Tata Energy Research Institute (TERI), New Delhi, IN

84-1001 (CP)
Coastal Management Study (Jamaica)

The continuing economic development of Jamaica is leading to rapid urbanization of the island's coastline. New tourist hotels, industrial complexes and housing schemes are being constructed. Knowledge of the marine communities and coastal environment, however, is sparse. The purpose of this project is to investigate the impact of development on the Hellshire coast, to provide coastal management guidelines for conserving this environment, and to apply the study's findings to coastal management problems in the wider Jamaican and Caribbean contexts.

/environmental protection/ /environmental management/ /littoral zones/ /coasts/ /ecology/ /ecodevelopment/
$555469 36 months
-University of the West Indies (UWI). Zoology Department, Kingston, JM
-Dalhousie University. Department of Oceanography, Halifax, CA

84-1002 (IS CP)
Data Processing: CIMMYT -- Phase II

CIMMYT (International Centre for Maize and Wheat Improvement) has been aware for a long time of the inadequacies of its data processing/statistical services. Phase I of this project was designed to begin the upgrading of the data processing and bio-statistical services available to support the biological programs at CIMMYT. Cooperation between CIMMYT and Agriculture Canada was promoted in order to develop systems software for the new CIMMYT computer facility. Useful progress has been made to date. Phase II will further promote active cooperation between CIMMYT and Agriculture Canada in order to enhance data base management systems, statistical analysis, and biometrics research; and, to provide on-site training and support for a systems/application software specialist.

/scientific cooperation/ /CIMMYT/ /agricultural research/ /computer programmes/ /electronic data processing/ /systems design/
$216500 24 months
-Centro Internacional de Mejoramiento de Maiz y Trigo (CIMMYT), Mexico, MX

84-1003 (CP)
Cooperative Management: A Case Study Involving Tanzania and Canada -- Phase II

The government of Tanzania wishes to train people to establish and manage cooperatives in order to restore national growth and productivity. In phase I a team of Canadian and Tanzanian researchers studied the strengths and weaknesses of the cooperative systems of the two countries. The most significant single outcome of phase I has been the development of a proposal for a Cooperative Management Team Building project in the cooperative system in Tanzania (a proposal currently before CIDA). Researchers in phase II will design organizational strategies to enable the cooperative movements in Tanzania and Canada to undertake significant initiatives at the national level which yet foster development at the local (grass roots) level; strengthen cooperative management theory and practice in the respective countries: strengthen the research capacity of the Cooperative College at Moshi and assess the potential impact of the proposal for Cooperative Management Team Building on the programs of the College.

/cooperative movements/ /cooperatives/ /management/ /planning/ /comparative analysis/ /decision making/
$475830 28 months
-York University. Faculty of Environmental Studies, Downsview, Ontario, CA
-Cooperative College, Moshi, TZ

84-1004 (SS CP)
Cooperative Educational Research (Chile and Canada)

In Chile, three problems have long held the interest of educational researchers: the quality of schooling; education for the poor; and the transition from school to work. The purpose of this collaborative project is to examine these concerns and to experiment with possible solutions. The project will allow researchers in Canada and Chile to extend and improve ongoing lines of research and action. The project represents an important means by which Chilean researchers can increase their capacity to examine and act upon educational issues.

/educational research/ /quality of education/ /access to education/ /transition from school to work/ /organization of research/
$266600 24 months
-Ontario Institute for Studies in Education (OISE), Toronto, Ontario, CA
-Centro de Investigacion y Desarrollo de la Educacion (CIDE), Santiago, CL

84-1005 (SS CP)
Urban Growth Management (Africa)

Although Africa is still mainly rural, many of its largest cities have become virtually unmanageable because of rapid growth. The purpose of this project is to support research collaboration on urban growth management in Africa between Canadian and African institutions and between francophone and anglophone African institutions. The project will strengthen and build upon selected urban research projects that have received support from IDRC and improve the dissemination of their research results.

/urbanization/ /public services/ /applied research/ /scientific cooperation/
$327600 24 months
-University of Toronto. Department of Anthropology, Toronto, CA

84-1006 (AFNS CP)
Leaf Spot (Alberta/Costa Rica)

A major coffee disease in Latin America is "ofo de gallo" or American leaf spot disease, caused by the fungus Mycena citricolor. The disease causes annual losses in Costa Rica of several million dollars, worth of coffee. Existing disease control techniques use expensive fungicides. The purpose of this project is to develop, through research collaboration between the University of Costa Rica and the University of Alberta, practical methods of disease control based on the chemistry, biology and ecology of the fungus and its hosts. Laboratory studies of the biochemistry and biology of M. citricolor and its natural enemies will complement fieldwork in seeking an array of tactics which, in combination, can reduce the economic impact of the disease.

/plant diseases/ /disease control/ /biological control/
$382800 36 months
-University of Alberta. Department of Chemistry, Edmonton, CA
-Universidad de Costa Rica, San Jose, CR

84-1007 (CP)
Industrial Steel Alloys

The mechanical design of pressure vessels, tubes and other components that operate at high temperatures is based on a useful life of 100 000 hours or more. Among the factors that limit their useful life is the accumulation of damage in the materials structure through the mechanisms of creep deformation. Creep may be defined as the time-dependent deformation of metals under conditions of constant load or stress. In this cooperative project, Canadian and Brazilian researchers will investigate the application of existing methods for measuring creep damage in Brazilian industrial components and will determine any necessary adaptations. They will also evaluate the damage and remaining life in selected industrial components utilizing the techniques developed.

/steel/ /iron and steel industry/ /physical properties/
$94000 24 months
-Metallurgical Consulting Services Ltd. (MCS), Saskatoon, Saskatchewan, CA
-Fundacao Souza Marques, Rio de Janeiro, BR

84-1008 (CP)
Karst Detection (Malaysia)

Two major urban areas in Malaysia, Kuala Lumpur and Ipoh, are underlain extensively by limestone. The subsurface limestone displays typical karstic features, such as caverns, in the top 50 metres or so of the bedrock surface. In view of the potential hazards that may arise from development over weak bedrock, it is important to initiate a research program on the geotechnical properties of the shallow subsurface. This project will enable the University of Malaya, Kuala Lumpur, Malaysia, and the Geological Survey of Canada, Ottawa, to develop methods to study and map irregular subsurface topographic features for engineering and mining applications.

/geological surveys/ /physical geography/ /seismology/
$95800 12 months
-University of Malaya. Department of Geology, Kuala Lumpur, MY
-Geological Survey of Canada, Ottawa, CA

84-1009 (IS CP)
INTERNATIONAL THESAURUS ON PUBLIC ADMINISTRATION

Information collected in documentation centres on public administration is required by planners and administrators as well as researchers and academics. The use of an appropriate indexing vocabulary is essential to providing good access to this information. The aim of this project is to produce a trilingual thesaurus (English, French and Spanish) in public administration for use by documentation centres in the analysis, retrieval and exchange of information. Project participants will consult existing local thesauri, integrate terms into a classification scheme, and organize the testing of the draft thesaurus by a number of interested institutions in order to finalize the document for publication and distribution.

/THESAURUS/ - /PUBLIC ADMINISTRATION/ /INDEXING/
$94600 18 months
-PUBLIC ADMINISTRATION ENCYCLOPEDIA, STE-FOY, QUEBEC, CA

84-1010 (CP)
International Development Office

This project will give continued institutional support to the International Development Office, a group formed in 1977 to inform Canadian universities of the needs of Third World countries. The Secretariat is made up of representatives from CIDA, IDRC and the Association of Universities and Colleges of Canada (AUCC). Its primary functions are to facilitate contact between Canadian universities interested in development and their counterparts in developing countries, and to provide information, publish documents and organize conferences related to higher education.

/development centres/ /international cooperation/ /universities/ /Canada/
$63000 12 months
-Association of Universities and Colleges of Canada (AUCC), Ottawa, CA

84-1011 (COMM CP)
Training in Science Broadcasting (Asia)

Opportunities for training in the writing and production of radio information programs are inadequate or non-existent in most Third World countries. This project will allow the Asia-Pacific Institute for Broadcasting Development (AIBD) and the Canadian Broadcasting Corporation (CBC) to collaborate in an intensive three-week training course for radio professionals from Asia and South Pacific. The course will provide participants with the opportunity to improve and develop skills in the planning, writing, and production of radio programs about science and technology for development.

/radio/ /writing and editing/ /scientific information/ /training courses/
$64242 6 months
-Asia-Pacific Institute for Broadcasting Development (AIBD), Kuala Lumpur, MY

84-1012 (AFNS CP)
Salmonids (Chile/HCL)

Over the last 50 years, attempts to introduce salmon to streams and rivers in southern Chile have met with varying degrees of success. In 1982, the Chilean government undertook a long-term program of introducing salmon into selected river systems in the region to provide economic opportunities for the local people. A new salmon fishery in the region would provide employment and food. The purpose of this project is to make a final selection of streams so that a program to develop self-sustaining populations of salmon can commence. Researchers will conduct ecological studies to assess seasonal variations in stream flow, water quality, food production and the presence of indigenous fish species; determine the most appropriate salmon species; and design hatcheries.

/freshwater fish/ /fishery development/ /rivers/ /ecosystems/
$96800 14 months
-Hatfield Consultants Ltd., Vancouver, British Columbia, CA

84-1014 (CP)
Passenger Transportation (Sri Lanka)

Sri Lanka lacks transport planning at the national level. This project will help fill the information gap by examining passenger transportation, particularly between cities. Researchers from the University of Calgary and the University of Moratuwa, Sri Lanka, will develop and validate a model for estimating future intercity travel demand on the various transportation modes. Research results will assist decision-makers in determining transportation needs that will arise from the massive Mahaweli development scheme now under way in the central and north central regions.

/transport/ /modes of transportation/ /transport planning/ /models/
$242900 36 months
-University of Moratuwa, Moratuwa, LK
-University of Calgary, Calgary, Alberta, CA

84-1016 (CP)
Air Pollution (Jordan)

Most developing countries with air pollution problems have been reluctant to adopt monitoring systems principally because of the high cost. The overall purpose of this project is to establish national air quality and emission standards in Jordan. Researchers will also develop, test and evaluate a cost-effective air pollution monitoring system. Specifically, an emission inventory and an air pollution dispersion model will be developed, and recommendations concerning the air quality standards and a pollution-control program will be submitted to authorities.

/air pollution/ /pollution control/ /pollution level/ /pollution sources/
$407899 36 months
-Environment Canada, Ottawa, Ontario, CA
-Royal Scientific Society (RSS), Amman, JO

84-1017 (CP)
Agrogeology (Tanzania)

Maintaining soil fertility is a serious problem in most developing countries. Replenishing plant nutrients with imported fertilizers is expensive. An alternative to imported synthetic fertilizers, which are expensive, is the use of locally available minerals. Leaching of these materials releases small amounts of nutrients in a process similar to that of weathering by which soils maintain their fertility naturally. The purpose of this project is to increase the fertility of tropical soils in three areas of Tanzania in which small-farm agriculture is important. Researchers will examine the fertilizer potential of phosphates, carbonates and some types of igneous rocks; and field test these geological materials as soil fertilizers on maize and bean crops.

/soil fertility/ /fertilizers/ /soil chemistry/ /mineral resources/
$455636 36 months
-University of Guelph. Department of Land Resource Science, Guelph, Ontario, CA
-Sokoine University of Agriculture. Dept. of Soil Science, Morogoro, TZ

84-1019 (AFNS CP)
Bean Utilization (Manitoba/INCAP)

IDRC has supported research on the quality of legumes in a number of countries. A major problem, yet to be solved, is over-hardening during storage which results in hard-to-cook characteristics. In this project, Guatemalan and Canadian researchers will develop standard methods for assessing bean quality based on Guatemalan consumer preferences. They will evaluate hardness development in beans stored on farm and in government-administered bulk storage; develop industrial and domestic procedures for utilizing hard-to-cook beans in local foods; and evaluate the effect of processing methods on nutritional quality.

/beans/ /food processing/ /food preparation/ /food storage/ /physical properties/
$467900 24 months
-University of Manitoba. Department of Foods and Nutrition, Winnipeg, Manitoba, CA
-Pan American Health Organization (PAHO), Washington, US

84-1020 (AFNS CP)
Soy Rhizobia (Alberta/Thailand)

A major constraint to higher soybean yields in Asia is the inefficiency of the nitrogen-fixing symbiosis. The innoculation of legume seeds with rhizobia enhances the ability of the resulting plant to biologically "fix" the nitrogen it needs directly from the atmosphere. The purpose of this project is to establish collaboration between Canadian and Thai scientists in the application of nitrogen isotopes dilution ratio techniques to improve nitrogen fixation by soybean-rhizobium symbiosis in Asian soils.

/soybeans/ /crop yield/ /soil improvement/ /nitrogen fixation/
$483000 48 months
-Agriculture Canada, Lethbridge, Alberta, CA
-Asian Vegetable Research and Development Center (AVRDC), Bangkok, TH

84-1021 (SS CP)
School Failure in the French Caribbean (Haiti, Martinique and Guadeloupe)

The rate of school failure is high in several developing countries. In Haiti, for example, only 2 percent of students entering the school system complete their secondary education. Education specialists have a global picture of the extent of school failure but little is known about the cause. This study will analyze school failure on three islands in the French-speaking Caribbean: Haiti, Guadeloupe and Martinique. The project will collect comparative data on school failure in the three islands, as well as information on its social and geographic distribution. Socioeconomic and linguistic factors, as well as the attitudes of teachers, parents and students toward school failure, will be investigated. This project will allow researchers from four universities to work together and submit their results and recommendations to governments educators and international organizations.

/educational research/ /quality of education/
$165700 24 months
-Université d'Etat, Port-au-Prince, HT
-Université Antilles-Guyane de la Guadeloupe et de la Martinique, Pointe-à-Pitre, GP
-Université de Montréal. Centre des recherches caraïbes, Montréal, Québec, CA

84-1022 (IS CP)
Remote Sensing Research and Training with Digital Image Processing (China)

Digital image analysis of satellite and other images is a developing technology that significantly improves the efficiency and depth of remote sensing research and applications. Digital image processors have begun to be used in remote sensing centres in China. The objectives of this project are to build the research and training capacity of China in state-of-the-art digital image analysis of remote sensing images and to establish closer cooperative links between Chinese and Canadian scientists in this field. The project will enable the Technical Training Department (Peking University) of the National Remote Sensing Center of China to upgrade its digital image analysis research and training programs. It will also permit the transfer of Canadian digital image analysis technology and expertise.

/remote sensing/ /technology transfer/
$365000 30 months
-State Science and Technology Commission, Beijing, CN
-University of Waterloo. Faculty of Environmental Studies, Waterloo, Ontario, CA
-International Development Research Centre (IDRC), Ottawa, Ontario, CA

84-1023 (FAD CP)
Young Canadian Researchers

The Young Canadian Researchers Awards, introduced in 1982-83, aim to encourage the involvement of young Canadian researchers in scientific areas of concern to IDRC and to expose them to problems of Third World countries. The purpose of this project is to award research fellowships, through open competition, to two categories of recipients: Canadian doctoral students registered in a Canadian university and working in scientific areas of concern to IDRC; and young Canadian professionals in the fields of journalism, finance and administration.

/research fellowships/ /applied research/ /development research/
$450000 12 months
-International Development Research Centre (IDRC), Ottawa, Ontario, CA

84-1024 (IS CP)
Canadian Journals of Research - Distribution Experiment

One of the basic requirements for conducting research is access to information and much of the most relevant information is reported in the world's academic journals. Low budgets and problems in acquiring foreign currency make it difficult for developing country research libraries to obtain current issues of scientific journals. This project proposes to place sets of the thirteen scientific journals published by the National Research Council of Canada (NRC) in approximately 100 selected developing country institutions in order to test the delivery channels to and within developing countries. The usefulness and appropriateness of Canadian scientific information to developing country researchers will be evaluated.

/periodicals/ /scientific information/ /research centres/ /scientific cooperation/
$200000 36 months
-Canadian Organization for Development Through Education (CODE), Ottawa, Ontario, CA

84-1025 (SS CP)
Economic Strategy (Tunisia) - Phase II

Commencing with its 1982-1986 Development Plan, the Tunisian government initiated major changes in economic policy to offset its dependence on petroleum exports. In phase I of this project, researchers sought to understand the problems entailed in restructuring the economy. Research concentrated on resource allocation, income distribution, and the impact of price changes on the economy. Phase II will allow this research to be continued. It will focus on further development of an economic model designed to test different policy choices.

/economic policy/ /resources allocation/ /income distribution/ /prices/ /policy making/
$355000 24 months
-Université de Montréal. Centre de recherche et développement économique, Montréal, Québec, CA
-Tunisie. Ministère du Plan, Tunis, TN

84-1026 (CP)
Cairo Metro

The Cairo Metro, a high-capacity mass transport system, is being built by the Egyptian Ministry of Transport. The underground section of the line, running through densely populated areas, will be excavated by the cut-and-fill method. The purpose of this project is to train Egyptian researchers and technicians in the use of instrumentation for field measurement of ground motion in excavations. Egyptian engineers will determine the ground response to tunnelling, and produce a numerical simulation model for soil-structure interaction.

/public transport/ /tunnels/ /technical aspects/ /measurement/
$94640 12 months
-University of Alberta. Department of Civil Engineering, Edmonton, Alberta, CA
-Ain Shams University. Dept. of Civil Engineering, Cairo, EG

84-1027 (CP)
Weather Radar (China)

Weather radar can be used to predict precipitation over a large area. The Gansu Province of China is a semi-arid area where hailstorms and flash floods frequently occur. This project will enable the Lanzhou Institute in China and McGill University in Montréal, Québec, to carry out scientific studies of the atmosphere in the Gansu, using a weather radar with digital recording and analysis equipment. The weather radar will track damaging hailstorms, forecast flash floods and help in the design and operation of irrigation schemes.

/weather forecasts/ /radar/ /meteorology/ /precipitations/ /floods/
$224090 36 months
-McGill University, Montréal, Québec, CA
-Lanzhou Institute, Lanzhou, CN
-International Development Research Centre (IDRC), Ottawa, Ontario, CA

84-1028 (CP)
Transportation (Chile)

Chile is in need of the capability to plan and develop its urban transport systems. More efficient and adequate urban transport systems would contribute to the socioeconomic development of the country, as approximately 80 percent of the population lives in the urban centres. The purpose of this collaborative research project is to adapt and develop models and methodology for the analysis and planning of urban transportation networks. Researchers will identify specific characteristics of the Chilean urban transportation systems; identify and solve theoretical problems identified in the area of demand analysis and network analysis; adapt models to the particular circumstances of existing cities; and carry out pilot studies.

/urban transport/ /modes of transportation/ /transport planning/ /models/
$349500 36 months
-Université de Montréal. Centre de recherche sur les transports, Montréal, Québec, CA
-Pontificia Universidad Catolica de Chile, Santiago, CL
-International Development Research Centre (IDRC), Ottawa, Ontario, CA

84-1030 (CP)
Fly-Ash Concrete (Argentina)

For the past few years, in an effort to curb the rise in construction cost, researchers in Latin America have attempted to identify less expensive cement substitutes. A by-product of the combustion of pulverized coal in thermal power plants, fly ash is one of the most promising substitutes identified to date. This collaborative research project will evaluate the performance of fly ash as a partial substitute to Portland Cement in the construction industry and to prepare guidelines for the utilization of fly ash in Argentina. Researchers will study the effect of fly ash on concrete and mortar properties; evaluate its technical performance; and estimate the reduction in construction cost resulting from the use of fly ash.

/cement/ /concrete/ /industrial wastes/ /waste utilization/
$226905 36 months
-Canada Centre for Mineral and Energy Technology, Ottawa, Ontario, CA
-Laboratorio de Entrenamiento Multidisciplinario para la Investigacion Tecnologica (LEMIT), La Plata, AR

84-1031 (CP)
Upgrading Turkish Lignite

Steel industries in most developing countries lack the necessary good quality of coking coal and complement their mining production with imports. The purpose of this cooperative project is to test the economic feasibility of upgrading the coking quality of low rank coals used in the steel industry in Turkey by using readily available blast furnace gases in combination with steam in a closed and pressurized system. Researchers will design an experimental high pressure reactor to be used as a prototype for an industrial scale production; and attempt to develop prediction formulas in order to determine processing variables for different types of low rank coals.

/coke/ /coal/ /iron and steel industry/
$346463 36 months
-Université de Sherbrooke. Département de génie chimique, Sherbrooke, Québec, CA
-University of Cukurova. Faculty of Arts and Sciences, Adana, TR
-International Development Research Centre (IDRC), Ottawa, Ontario, CA

84-1032 (CP)
Activated Carbon (Colombia)

Colombia is the largest coal producer in Latin America. Coal mining operations leave behind tremendous quantities of fines, small granular particles of coal which are considered to be a waste material, with little commercial value. The purpose of this project is to use this waste material to produce activated carbon, a product with wide ranging industrial applications. Researchers will study the technical and economical feasibility of obtaining activated carbon at reasonable prices and with appropriate technology; and characterize the activated carbons obtained under different conditions.

/waste utilization/ /coal mining/ /appropriate technology/
$209200 36 months
-Royal Military College of Canada. Department of Chemistry and Chemical Engineering, Kingston, Ontario, CA
-Universidad Nacional de Colombia, Medellin, CO

84-1034 (CP)
Foundry Technology (Argentina)

Cast iron is one of the cheapest iron based metals and is usually associated in the Third World with small-scale foundries. In approximately 1960, a technique was discovered to increase the durability of cast iron, making it roughly equivalent to mild steel. Compact graphite cast iron can be used in automobile parts as well as in casting molds and dies for the steel, aluminum and glass industries. This collaborative project will attempt to develop a technology to produce compact graphite cast iron in cupola smelting furnaces which are widely used by small and medium-scale foundries throughout Argentina.

/alloys/ /iron/ /iron and steel industry/
$232250   36 months
-University of British Columbia. Department of Metallurgical Engineering, Vancouver, CA
-Laboratorio de Entrenamiento Multidisciplinario para la Investigacion Tecnologica (LEMIT), La Plata, AR
-International Development Research Centre (IDRC), Ottawa, Ontario, CA

84-1035 (AFNS CP)
Faba Bean Pathology (Manitoba / ICARDA) - Phase III

Faba beans are an important source of protein for people in many countries of the world, particularly in Asia and North Africa, but faba bean yields are frequently severely limited by diseases. Previous phases of this project supported collaborative research in faba bean breeding and disease. To date the research team has achieved substantial success in developing screening and selection methodologies for improving disease resistance in faba beans. This third phase will support continued research on the development of lines and populations with various combinations of resistance to several diseases including ascochyta blight, rust and yellow mosaic virus. Researchers will also investigate the use of bees as cross-pollinators in breeding research.

/faba beans/ /plant breeding/ /plant diseases/ /disease resistance/ /genetic improvement/
$648500   36 months
-University of Manitoba. Department of Plant Science, Winnipeg, Manitoba, CA
-International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, SY

84-1036 (SS CP)
Trade, Protectionism and Industrial Adjustment (S.E. Asia)

Since 1975, many countries in East and Southeast Asia hve continued to enjoy high rates of growth. Their future development, however, is less certain since it depends on continued access to the markets of the developed market economies. However, increased market penetration has provoked strong pressures in the advanced countries to protect their threatened industries against "cheap imports" and "unfair competition". The purpose of this collaborative project is to study the impact of trade restrictions in industrialized countries on the industrial and trade prospects of developing and developed economies, with particular reference to East and Southeast Asia, and North America. Researchers will analyze the impact of protection in the vegetable oils, clothing and consumer electronics industries.

/international trade/ /protectionism/ /trade barriers/ /trade development/
$417175   18 months
-North-South Institute (NSI), Ottawa, Ontario, CA
-Institute of Southeast Asian Studies (ISEAS), Singapore, SG

84-1037 (CP)
Gas Insulation Systems (China)

China is planning to undertake a massive hydroelectric generation development program, much of it on the Yangtse River, and the power will have to be transmitted over long distances to the densely populated areas. Because of the distances involved, the cold climate and the mountainous terrain, compressed gas insulated equipment - unavailabale at present in China - will have to be used. The overall objective of the project is to develop a research and development capability at Xi'an Jiaotong University in this field. Laboratory studies on compressed gases and gas mixtures will be conducted and the proper gas mixtures selected and tested on prototype equipment in collaboration with potential manufacturers. Steps will be taken to ensure the implementation of the results in the manufacturing industry.

/electrical equipment/ /research and development/ /hydroelectric power/
$232271   36 months
-University of Manitoba. Faculty of Engineering, Winnipeg, Manitoba, CA
-Xi'an Jiaotong University. Department of Electrical Engineering, Xi'an, CN

84-1038 (CP)
Multi-Purpose Furniture (Hong Kong)

The Hong Kong Housing Authority is completing around 35 000 flats each year in order to provide needed public housing. However, immense problems remain in the safe utilization of the limited interior space of government housing, especially from the point of view of hygiene and fire hazards. The purpose of this collaborative research project is to create new multi-purpose furniture designs so as to improve the living conditions of the poor in public housing. Researchers will test a range of user requirements, then use the resulting specifications in the design of multi-purpose furniture and fittings.

/furniture/ /design/
$97350   12 months
-Ontario College of Art, Toronto, Ontario, CA
-Hong Kong Polytechnic, Kowloon, HK

84-1039 (CP)
Welding Consumables (Argentina)

The number of small- and medium-scale metal industries is growing rapidly in Argentina and in the last few years there has been a marked increase in the use of Cr-Mo steels. Because of this increase, there is a felt need for the development of new welding consumables for high toughness applications. As a principal component in any welded joint work, it is essential that the welding consumables combine many properties including good tensile and compressive strength upon solidification; resistance to corrosion and fracture under the whole range of service temperatures; and good deposition rates while maintaining homogeneity in the microstructure of the weld. The incorporation of flux in the core of welding consumables can make substantial improvements in all these areas if it is developed properly. The objective of this project is therefore to develop flux cored welding consumables for use by small- and medium-scale metal industries to improve the quality of their welding work.

/welding/ /metallurgy/ /steel/
$254500   24 months
-International Development Research Centre (IDRC), Ottawa, Ontario, CA
-University of Alberta. Department of Mineral Engineering, Edmonton, Alberta, CA
-Universidad Nacional de Mar del Plata, Mar del Plata, AR

84-1040 (CP)
Moroccan Swelling Clays

Swelling clays are clays that undergo significant changes in volume at times of alternating humidity and aridity. These clays are widespread in the Moroccan coastal region, where 70 percent of the population lives. The differential swelling of clays in a semi-arid country like Morocco presents geotechnical problems, especially for the foundations of small- and medium-sized buildings, the construction and maintenance of roads, and the stability of slopes. This project aims to establish the specificity of Moroccan swelling clays, define their geotechnical characteristics, and propose analytical methods suited to Moroccan conditions and useful for predicting clay behaviour.

/soil types/ /clay/ /technical aspects/
$315000   36 months
-International Development Research Centre (IDRC), Ottawa, Ontario, CA
-Université de Sherbrooke. Département de génie civil, Sherbrooke, Québec, CA
-Ecole Mohammadia d'Ingénieurs. Département de génie civil, Rabat, MA

84-1041 (CP)
Urban Soil Engineering - Sfax

With a population of over 500 000, Sfax is Tunisia's second-largest city. Its growth over the last few years has been very rapid. The urbanization of this flat coastal region, which is made up of recent alluvial deposits, presents serious soil-engineering problems. Soil-engineering have been rare, however, and the institutions responsible for development lack the basic information they need to carry out their tasks. The main purpose of this project is to identify, map, analyse and interpret the main soil-engineering problems of the urban area in order to propose viable technical solutions. Moreover, a data base will be prepared for engineers and for municipal and national authorities.

/soil types/ /urbanization/ /technical aspects/
$135500   36 months
-International Development Research Centre (IDRC), Ottawa, Ontario, CA
-Université de Sherbrooke. Département de génie civil, Sherbrooke, Québec, CA
-Ecole Nationale d'Ingénieurs. Département de Géologie, Sfax, TN

84-1042 (AFNS CP)
Lentil Haploids (Manitoba / ICARDA)

Lentils are an important protein source for the rural and urban poor in many parts of the Third World. This project will develop tissue culture techniques of great significance to lentil breeders at the International Center for Agricultural Research in the Dry Areas (ICARDA) and worldwide. Recovery of haploid plants from culture has been achieved for numerous species, but there are very few successes reported in legumes. Researchers on this project will develop methods for the production of homozygous lentil lines through production of haploid plants from anther and pollen culture, for use in lentil breeding programs in the ICARDA region and elsewhere.

/lentils/ /genetic improvement/ /plant breeding/
$146600   24 months
-University of Manitoba, Winnipeg, Manitoba, CA
-International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, SY

84-1043 (AFNS CP)
Oysterseed (Dalhousie/Jamaica)

There is good potential for the development of oyster farming in Jamaica and elsewhere in the Caribbean. At present, however, the availability of natural supplies of seed oysters (Crassotrea rhizophorae) is limiting the expansion of culture operations. The purpose of this cooperative project is to study the reproductive biology and ecology of seed oysters in an attempt to develop an economically viable oyster hatchery technology and the means to control oyster mortality.

/oyster culture/
$215900 36 months
-Dalhousie University. Department of Biology, Halifax, Nova Scotia, CA
-University of the West Indies (UWI). Department of Zoology, Kingston, JM

84-1044 (CP)
Urban Geology (Thailand)

In the city of Bangkok, excessive groundwater pumping (removal) and the resultant land subsidence renders the region susceptible to flooding during high periods of rainfall. The purpose of this project is to evaluate the geotechnical properties of the foundation soils in the urban area and identify and define the geotechnical problems related to subsidence. Researchers will produce sets of maps and related geological information for urban development land use planning, as well as propose actions for small-scale remedial measures to alleviate the land subsidence problem.

/land use/ /urban development/ /physical geography/ /geological surveys/
$296800 36 months
-International Development Research Centre (IDRC), Ottawa, Ontario, CA
-McGill University. Faculty of Graduate Studies and Research, Montréal, Québec, CA
-Asian Institute of Technology (AIT), Bangkok, TH

84-1045 (CP)
Fiber Reinforced Roofing

The vast majority of houses in Ethiopia are constructed with chica walls and corrugated metal roofs. The government is encouraging the development and use of alternative local building materials. This collaborative project will investigate the use of fiber reinforced concrete in the production of corrugated roofing sheets and other building materials. Researchers will determine the availability, cost, and physical and chemical properties of natural fibers and volcanic ashes available in the country. They will also determine appropriate mixes of fiber and mortar and develop a simple manual method for the production of fiber reinforced corrugated sheets for roofing and fiber reinforced poles for roofing support and framing.

/concrete/ /housing/
$106800 36 months
-International Development Research Centre (IDRC), Ottawa, Ontario, CA
-University of Ottawa. Civil Engineering Department, Ottawa, Ontario, CA
-University of Addis Ababa, Addis Ababa, ET

84-1046 (IS CP)
Microform Storage Experiment (Indonesia/Canada)

Micro-images on film and the film itself can deteriorate rapidly if not stored under proper conditions. Unfortunately, the heat, humidity and dust found in many developing countries are the worst possible conditions for storing film. However, the cost of constructing and maintaining buildings with the required atmospheric conditions is very high and beyond the means of most developing countries. This cooperative project will provide the opportunity to test, under adverse climatic conditions in Indonesia, a unique and inexpensive microform storage system developed by the Bank of Canada. The system uses hermetically sealed pouches to create a dry, inert, oxygen-free environment for the film.

/microfilms/ /microfiches/ /storage/ /evaluation/
$62850 18 months
-Pusat Dokumentasi Ilmiah Nasional (PDIN), Jakarta, ID

84-1047 (CP)
Human Settlement Planning and Management

After several decades of development planning applied to human settlements, the results in terms of long-term development are still questionable. The purpose of this collaborative project is to collect, analyze and compare recent attempts in Latin America and the Caribbean to make the planning of human settlements more responsive to the needs and circumstances of the populations that it is supposed to serve. Researchers will develop a general model of development planning for human settlements which includes action (participatory) research and action learning approaches.

/human settlements/ /development planning/ /participatory research/
$118700 12 months
-International Development Research Centre (IDRC), Ottawa, Ontario, CA
-York University. Faculty of Environmental Studies, Downsview, Ontario, CA
-Facultad Latinoamericana de Ciencias Sociales (FLACSO), Buenos Aires, AR

84-1048 (CP)
Technology Adoption SMEs (Malaysia)

The fourth Malaysian development plan puts particular emphasis on the development of small- and medium-size enterprises (SMEs). In order to compete in the world marketplace, SMEs must adopt technology appropriate to the changing market environment. The objectives of this two-phase project are to understand the processes involved in the acquisition and adoption of technologies within SMEs in Malaysia and, by considering the experiences of technology transfer to SMEs within Canada, develop a framework for a more effective flow of new technologies to SMEs in Malaysia. Researchers will determine the economic performance of Malaysian SMEs within the manufacturing sector, conduct a pilot study and finalize the research methodology to be used in the second phase.

/technological change/ /technology transfer/ /small enterprises/
/medium-scale industry/
$129881 12 months
-International Development Research Centre (IDRC), Ottawa, Ontario, CA
-Saskatchewan Research Council, Saskatoon, Saskatchewan, CA
-Institut Teknologi Mara, Selangor, MY
-University of Saskatchewan. College of Commerce, Saskatoon, Saskatchewan, CA
-Universiti Pertanian Malaysia, Selangor, MY

84-1049 (IS CP)
Resource Mapping - Sokoto Rima Basin (Nigeria)

For Nigeria, as well as for many other countries in Africa, better management of natural resources is a prerequisite to improving agricultural production and ensuring food self-sufficiency. New survey techniques like remote sensing can generate information essential to such tasks. The purpose of this cooperative project is to provide the Sokoto Rima River Basin Development Authority with updated maps on land cover and land use. The project will also help Nigeria strengthen its capabilities in the field of remote sensing data processing.

/remote sensing/ /resources inventory/ /mapping/
$328530 36 months
-International Development Research Centre (IDRC), Ottawa, Ontario, CA
-University of Waterloo. Faculty of Environmental Studies, Waterloo, CA
-University of Lagos, Lagos, NG

84-1050 (AFNS CP)
Fish Poisons (UBC/Thailand)

Plant extracts toxic for fish have long been used for removing unwanted species from ponds. In Thailand, there are immediate requirements for pest control in aquaculture that could be solved with a natural piscicide/molluscicide. The purpose of this project is to discover safe, efficient and cheap piscicides/molluscicides from readily available and easily grown plant species. Researchers will test the efficacy of the piscicides; and study their impact on the ecology of salt and freshwater ponds and lakes used for aquaculture.

/aquaculture/ /aquatic plants/ /toxicity/
$433600 24 months
-University of British Columbia. Department of Biology and Botany, Vancouver, CA
-Prince of Songkla University, Haad Yai, TH

84-1051 (CP)
Canadian Area-Specific Learned Societies

The Centre has supported three Canadian Area-specific Learned Societies since 1974: Canadian Association of Latin American and Caribbean Studies (CALACS), Canadian Asian Studies Association (CASA), and Canadian Association of African Studies (CAAS). The societies foster cooperation in research on development problems between developed and developing regions for their mutual benefit. The purpose of this project is to provide each of the Learned Societies with a terminal grant to allow them to meet current operational commitments over a period of 12 months.

/scientific cooperation/
$94000 12 months
-Canadian Association of Latin American and Caribbean Studies (CALACS), Ottawa, Ontario, CA
-Canadian Asian Studies Association (CASA), Ottawa, Ontario, CA
-Canadian Association of African Studies (CAAS), Ottawa, Ontario, CA

84-1052 (CP)
International Development Secretariat

The International Development Secretariat is an instrument to increase Canadian university involvement in international development. Its Secretariat is composed of a tri-partite development liaison committee guided by CIDA, IDRC and AUCC (the Association of Universities and Colleges of Canada). Within the framework of Cooperative Programs, the role of the International Development Secretariat is to sensitize Canadian universities to development problems and help them choose projects which will be most beneficial to developing countries.

/development centres/ /international cooperation/ /universities/ /Canada/
$67000 12 months
·Association of Universities and Colleges of Canada (AUCC), Ottawa, Ontario, CA

84-1053 (AFNS CP)
Oilseed Anther Culture (Agriculture Canada/Network)

In vitro culture of pollen anther and ovule cells is a very promising new biological technique that allows the rapid reproduction of homozygous plant lines for use in breeding programs. In this project a team at the Ottawa Research Station of Agriculture Canada will attempt to apply the technique to three oilseed crops which are of great importance to small farmers in semi-arid areas of Africa and Asia: sesame, (Sesamum indicum); safflower, (Carthamus tinctorius); and niger seed (Guizotia abyssinica). If successful, the project will provide plant breeders in those regions with a much more rapid means of producing advanced germplasm for introduction to farmers. Researchers from India and Ethiopia will work on the project at the Ottawa Research Station.

/genetic improvement/ /plant breeding/ /oilseeds/
$86700 24 months
·Agriculture Canada, Ottawa, Ontario, CA

84-1054 (AFNS CP)
Weevil Resistance (Ottawa/CIMMYT)

Loss of stored grain to insect pests is one of the more serious problems faced by small farmers in the tropics. Recent research suggests that many traditional varieties of maize are more resistant to attack by storage insects than are the high-yielding hybrid varieties recently introduced. The purpose of this project is to determine the biological, physical and chemical nature of resistance to the corn weevil (Sitophilus). Researchers will assess resistance in maize lines provided by the International Centre for Wheat and Maize Improvement (CIMMYT) and in selected varieties from national programs (e.g. Belize Ministry of Agriculture).

/plant diseases/ /pests of plants/ /maize/ /disease resistance/
$96900 18 months
·Université d'Ottawa, Ottawa, Ontario, CA

84-1055 (AFNS CP)
Faba Bean Pollination (Manitoba /ICARDA)

Faba beans are important in the diet of the poor in many developing countries. To date, however, efforts to produce improved varieties have been relatively unsuccessful, mainly for lack of adequate and cheap pollination control methods. This project aims to develop methods for reducing or eliminating out-crossing between field plots through the use of guard rows of a more attractive crop, and/or chemical insect repellents. It will also attempt to increase cross-pollination within cages, by manipulating honey or alfalfa bee management practices. Natural pollinating insects in West Asia and North Africa will be surveyed and studied to determine their pollinating potential.

/faba beans/ /plant breeding/ /genetic improvement/
$99000 24 months
-University of Manitoba. Faculty of Agriculture, Winnipeg, Manitoba, CA
-International Center for Agricultural Research in the Dry Areas (ICARDA), Aleppo, SY

84-1056 (CP)
Quaternary Hydrogeology (Bénin)

A majority of the population of Bénin lives along coastal regions whose basins are made up of quaternary sediment. These sediments contain aquifers -- water-bearing strata of permeable rocks -- which supply water to urban and rural populations. Not much is known about how the rock formations affect the rational use of water resources. Problems such as the influx of salt water, the contamination of the water table with domestic and industrial pollutants, and the excessive lowering of the groundwater level have become serious. In this project the quaternary formations and the related hydrogeological systems will be defined and the use of water resources is evaluated.

/hydrogeology/ /groundwater/ /water supply/
$98224 12 months
-International Development Research Centre (IDRC), Ottawa, Ontario, CA
-Université du Québec. Département des sciences de la terre, Montréal, Québec, CA
-Université Nationale du Bénin, Cotonou, BJ

84-1057 (CP)
Fiber Reinforced Composite Materials (Mexico)

The use of fiber reinforced composite (FRC) materials has an important place in modern industry. Currently the auto parts industry is utilizing an increasing number of FRC parts as well as plastics. The purpose of this project is to study the economic and technical feasibility of utilizing fiber reinforced polymeric composite springs as a replacement for conventional steel leaf springs used presently in the automotive industry in Mexico. Researchers will design and develop an injection moulding system for the manufacturing of multiple leaf springs including detailed production procedures; and design and develop a prototype multiple leaf spring and evaluate its performance under service conditions.

/automobile industry/ /new products/ /product development/ /product design/ /prototypes/
$86900 30 months
-International Development Research Centre (IDRC), Ottawa, Ontario, CA
-Metallurgical Consulting Services Ltd. (MCS), Saskatoon, Saskatchewan, CA
-Universidad Autonoma Metropolitana, Mexico, MX

84-1058 (AFNS CP)
Root Crop (Montreal/Ivory Coast)

Yams are an important staple food crop in several West African countries. The rapid multiplication of planting material, the transfer of disease free clones, and the storage of germ plasm of clonally propagated crops present special problems, however. This project will enable scientists at the University of Abidjan in Ivory Coast, working with scientists at the University of Montréal, Canada, to develop tissue culture methods for yam propagation and explore the possibilities of genetic improvement by advanced biotechnological methods.

/root crops/ /genetic improvement/
$96200 24 months
-Université de Montréal, Montréal, Québec, CA
-Université d'Abidjan, Abidjan, CI